Part 14: Appendices

APPENDIX A: Laws and Potential Applicability

The following section includes laws, codes, and/or regulations pertinent to the Tsurai Study Area (TSA). The laws were chosen through an exhaustive search, which included an online search on the websites maintained by the California State Coastal Conservancy, California Coastal Commission, California Department of Fish and Game, US Fish and Wildlife Service, USDA Forest Service, California Environmental Resources Evaluation System, the Federal Register, and the California Code. Purpose, jurisdictional authority, and general applicability determined the selection of specific sections of each law.

The laws are organized by power of jurisdiction beginning with Federal law, followed by California State law. Additionally, the laws have been organized to begin with environmental law, followed by law pertaining to cultural resource protection. Each law will include a section discussing the law and its general applicability. In addition, the reader will find a legal findings discussion specific for the TSA following the general legal discussion.

This section is for information purposes and should not be considered a legal interpretation, nor representative of the views of any of the parties included in the Management Team.

I. Federal Laws

1. Coastal Zone Management Act (CZMA)

A. The Law

The Coastal Zone Management Act became law on October 27, 1972 (PL 92-583, 16 U.S.C. 1451-1456) and has been amended eight times since. The purpose of the act is "to preserve, protect, develop, and where possible, to restore or enhance, the resources of the nation's coastal zone for this and succeeding generations" (16 U.S.C. 1452 Sec. 303 §§ 1). In order to accomplish this purpose, the responsibility of the federal government is "to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs...(16 U.S.C. 1452 Sec. 303 §§ 2).

These management programs are required to support the ecological, cultural, historic, and aesthetic values of the coastal zone, as well as support the need for economic development (16 U.S.C. 1452 Sec. 303 §§ 2). In order to accomplish these requirements, the plans are to provide for:

• the protection of natural resources (16 U.S.C. 1452 Sec. 303 §§ 2 (a));

- to manage coastal development in a way that minimizes the loss of life and property (16 U.S.C. 1452 Sec. 303 §§ 2 (b)) and improves or safeguards the quality of coastal waters (16 U.S.C. 1452 Sec. 303 §§ 2 (c);
- to redevelop urban waterfronts and ports, to restore or preserve sensitive historic, cultural, or esthetic coastal features (16 U.S.C. 1452 Sec. 303 §§ 2 (f)); and
- to provide public access (16 U.S.C. 1452 Sec. 303 §§ 2 (e)).

After a State has created a management plan consistent with the purpose of this act and has included the necessary requirements (under 16 U.S.C. 1455 (d)), then it is submitted to the Secretary of Commerce for review and approval. The State has developed a management plan that is to be implemented through the Coastal Commission, Coastal Conservancy, and participating local governments. The City of Trinidad is such a local participating government that implements the Act through the City of Trinidad's Local Coastal Program.

B. General Applicability

This act applies to the "coastal zone," which is defined as any,

coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the several coastal states, and included islands, transitional and intertidal areas, salt marshes, wetlands, and beaches...(16 U.S.C. 1453 Sec. 304 §§ 1).

The act goes on to define the coastal zone as extending,

inland from the shorelines only to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters, and to control those geographical areas which are likely to be affected by vulnerable to sea level rise (16 U.S.C. 1453 Sec. 304 §§ 1).

2. Clean Water Act (CWA) (a.k.a. The Federal Water Pollution Control Act)

A. The Law

The purpose of the Clean Water Act (CWA) (33 U.S.C. 1251 Sec. 101-607), which originally passed in 1972, is to protect the quality of surface water. The goal of this act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 U.S.C. 1251 Sec. 101 (a)) so they may protect and support the "protection and propagation of fish, shellfish, and wildlife and provide for recreation in and on the water...(33 U.S.C. 1251 Sec. 101 §§ 2). In order to accomplish this goal, the CWA develops the implementation of programs focused on point source pollution, which in

recent years has taken a more holistic watershed-based approach, in order to combat surface water pollution.

In order to implement programs, several steps must be taken.

- Water quality standards (WQS) consistent with the statutory goals of CWA must be established. The responsibility for establishing WQS is vested in the states and territories, however, the U.S. Environmental Protection Agency (EPA) must approve the standards adopted. In regards to tribes, the EPA must set WQS on Indian lands, as well as assign WQS authority to tribes. In order to be granted such authority, tribes must meet certain tests before assuming WQS programs.
- Once WQS have been established, then waterbodies are monitored to determine whether the WQS are being met.
 - O Antidegradation programs are developed in order to maintain acceptable pollutant levels in these waterbodies. In addition, ambient monitoring is also conducted. States, tribes, and territories, as part of their WQS regulations, usually cover the antidegradation programs. Results of monitoring must be submitted by the proper state, tribe, or territory to the EPA and must be made available to the public.
- If a waterbody is determined to be impaired a 303(d) watershed planning and strategy is developed.
 - O The most common strategy is the development of a Total Maximum Daily Load (TMDL), which is developed by the states, tribes, or territories and submitted to the EPA for approval. The TMDL determines what level of pollutant load, as well as the allocation of acceptable loads, would be consistent with meeting the WQS. Although the CWA provides no federal authority for requiring nonpoint sources to reduce their pollutant loadings, the Act does require states (and authorized tribes and territories) to develop TMDLs for waters where nonpoint sources are significant pollutant sources. These TMDLs do not create any federal regulatory authority, however, they become resourceful information.

In order to reduce pollutant loads deemed excessive, many strategies authorized by the CWA may be implemented, in addition to any other tools available from federal, state, and local governments and nongovernmental organizations.

• The National Pollutant Discharge Elimination System (NPDES) regulatory program: The CWA makes it illegal to discharge pollutants from a point source to the waters of the United States. Therefore, the NPDES requires that point sources must obtain a discharge permit, which may not exceed 5 years, from the proper governing authority (state, tribe, territory, or EPA), in order to set limits on

the amount of certain pollutants that source can discharge at a particular time. If pollutant discharge levels are exceeded, then the responsible governing agency may enforce actions, such as injunction, fines, and imprisonment.

- Section 404 Program: Regulates the placement of dredged or fill material into waters of the United States. The primary component of concern here are wetlands, however, this strategy also may apply to intermittent streams, small perennial streams, rivers, lakes, bays, estuaries, and portions of the oceans. EPA and the U.S. Army Corps of Engineers jointly administer the permits with advisory concurrence from the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. However, EPA can determine that Section 404 be handled by a state, tribe, or territory.
- Section 401(a): Requires that a federal agency must obtain from the state in which the proposed project is located, a certification that the discharge is consistent with the CWA, including attainment of applicable state ambient WQS before any permits may be issued.
- Section 319, Nonpoint Source Program: Nonpoint source pollution is the most significant source of pollution in the country. Since the CWA does not directly address nonpoint source pollutants this section provides funding opportunities to develop and implement management programs targeted at this source of pollution.
- Acquisition of funds provided in 1987 under the Clean Water State Revolving Fund (CWSRF). Under the CWSRF, EPA provides annual capitalization grants to states, which in turn provide low interest loans for a wide variety of water quality projects. Some funds are also provided to tribes and territories to be used as grants for municipal wastewater treatment projects.

Once strategies have been implemented and pollutants have been reduced, then only occasional monitoring is necessary. If strategies are unsuccessful, then other strategies are developed, implemented, and ambient monitoring continues until a strategy is found to be successful.

B. General Applicability

The Clean Water Act applies to "waters of the United States." As defined by the Act, these waters apply only to surface waters- rivers, streams, creeks, springs, lakes, estuaries, coastal waters, and wetlands. Not all surface waters are legally "waters of the United States," however, generally such waters include all interstate waters, intrastate waters used in interstate and/or foreign commerce and their tributaries, territorial seas at the cyclical high tide mark, and wetlands adjacent to each previous classification for delineation. Delineation of inclusive surface waters may be altered as new judicial findings are made and new regulations are issued. If so, the Act is modified in order to account for such alterations.

This Act does not deal directly with ground water or with water quantity issues. Rather, the Act deals with direct pollutant discharges into waterways, the finance of municipal wastewater treatment facilities, and the management of polluted runoff. This Act is primarily concerned with issues of point source pollution and does not directly address nonpoint source pollution, except in the capacity of obtaining monitoring information. Point source pollution is defined as discrete conveyances, such as pipes or manmade ditches that discharge pollutants into waters of the United States. This includes not only discharges from municipal sewage plants and industrial facilities, but also collected storm drainage from urban areas, certain animal feedlots and fish farms, some types of ships, tanks trucks, offshore oil platforms, and collected runoff from many construction sites. Nonpoint source pollution is defined as pollution that comes from many diffuse sources. Nonpoint source pollution is caused by rainfall or snowmelt moving over and through the ground, which picks up and carries away natural and manmade pollutants, finally depositing them into waters of the United States. Loadings of pollutants from nonpoint sources enter waterbodies via sheet flow, rather than through a pipe, ditch, or other conveyance.

In California, the California Water Resources Control Board formulates and adopts state policy for water quality control in accordance with federal and state water quality laws. Beyond this, regional branches, cities, or counties may adopt more stringent regulations. The California Water Resources Control Board is also in charge of issuing the National Pollution Discharge Elimination System permits.

3. Antiquities Act and the California Coastal Monument Act (CCMA)

The Antiquities Act is the first federal legislation passed in 1906 for the express purpose of protecting and preserving the nation's cultural resources and provided for the creation of national monuments. Relevant sections for the creation of national monuments are cited below.

A. The Law

Antiquities Act As Amended Proclamation of national monuments, reservation of lands, etc.

The President of the United States is authorized, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and may reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with proper care and management of the objects to be protected. When such objects are situated upon a tract covered by a bona fide unperfected claim or held in private ownership, the tract, or so much thereof as may be necessary for the proper

care and management of the object, may be relinquished to the Government, and the Secretary of the Interior is hereby authorized to accept the relinquishment of such tracts in [sic]behalf of the Government of the United States (16 U.S.C.431 Sec. 2).

B. General Applicability

Under the authority of the Antiquities Act, the California Coastal National Monument (CCNM) was established by Presidential Proclamation on January 11, 2000. The CCNM is part of the National Landscape Conservation System and represents one of the most frequently views landscapes in the nation. The CCNM

...consists of more than 20,000 rocks and small islands that spread along the entire length of the 1,100-mile California coastline, from Mexico to the Oregon border. The monument does not include any California's mainland but consists of 1,000 acres of rocks and islands that stand above mean high tide, within a vast 14,600-square-nautical-mile segment of the Pacific Ocean's continental shelf. Its unique location and physical conditions have created and irreplaceable array of fragile ecosystems and their component biological, physical, and cultural resources.

The rocks and islands of the CCNM are public lands owned by the United States that are administered by the Secretary of the Interior through the Bureau of Land Management (BLM 2004).

The BLM has delegated the management of the CCNM to the California Department of Fish and Game for wildlife resources, with participation from the California Department of Parks and Recreation (BLM 2004). The California Department of Fish and Game designated the rocks and island within one-mile of the coast as the California Offshore Rocks and Pinnacles Ecological Reserve in 1988 (BLM 2004). This designation was made under California Code of Regulations, Title 14, Section 630 (BLM 2004).

4. National Endangered Species Act (ESA)

A. The Law

The Endangered Species Act was original passed in 1973 for the purpose of providing a

means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth [previously]...(16 U.S.C. 1531 Sec. 2 (b)).

This purpose is to be implemented as policy by Congress in its authoritative direction of all Federal departments and agencies (16 U.S.C. 1531 Sec. 2 (c)). Moreover, the policy of Congress shall include the Federal cooperation with State and local agencies "to resolve water resource issues in concert with conservation of endangered species (16 U.S.C. 1531 Sec. 2 (2)).

Endangered and threatened species include any plant, fish, or wildlife deemed to be either endangered or threatened by the Secretary of the Interior, the Secretary of Commerce, or in regards to plant life, the Secretary of Agriculture. Once endangered and threatened species have been determined, a list is compiled and published in the Federal Register, which is reviewed and amended every five years. In addition, critical habitat is designated.

All endangered and threatened species may not be imported, exported, sold, bought, captured, transported, and otherwise be in the possession of an individual without the proper clearance granted under Sections 9 or 10 of the ESA. Severe civil and/or criminal penalties may be applicable if an individual is found to be in violation of the Act.

The development of implementation plans for the conservation and survival of endangered and/or threatened species is the responsibility of the Secretary of the Interior and the Secretary of Commerce. This includes programs of monitoring in cooperation with the states, recovery, and land acquisition.

B. General Applicability

The Endangered Species Act applies to any endangered or threatened plant, wildlife, or aquatic species. Endangered species are "any species which is in danger of extinction throughout all or a significant portion of its range..." excluding those species of the Class *Insecta*, which have been determined "to constitute a pest whose protection...would present an overwhelming and overriding risk to man" (16 U.S.C. 1531 Sec. 3 §§ 6). Threatened species "means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (16 U.S.C. 1531 Sec. 3 §§ 20).

Within the United States, the Secretary of the Interior and the Secretary of Commerce are authorized to cooperate with the states in order to ensure the adherence of this Act. Management agreements may be entered into between the State and the "Secretary for the administration and management of any area established for the conservation of endangered species or threatened species" (16 U.S.C. 1531 Sec. 6 (b)). In addition, a cooperative agreement can be reached between the Secretary and the State, which provides the proper State agencies the authority, to protect and conserve endangered and threatened species (16 U.S.C. 1531 Sec. 6 (c)). These agreements may include the federal allocation of funds to the State in order to run these conservation and protection programs (16 U.S.C. 1531 Sec. 6 (d)).

The list of endangered and/or threatened species is inclusive of the entire planet, therefore, the Act also includes the encouragement of foreign conservation programs. These efforts include entering into bilateral or multilateral agreements with foreign countries to provide for conservation, as well as the allocation of financial assistance for educational training of foreign personnel, research, and law enforcement (16 U.S.C. 1531 Sec. 8).

5. National Environmental Policy Act (NEPA)

A. The Law

The purpose of the National Environmental Policy Act (NEPA) (PL 91-190, 42 U.S.C. 4321 and 4331-4335) is to adopt a national policy focused on preventing and eliminating damage to the environment and biosphere, "to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a council on Environmental Quality" (42 U.S.C. 4321 Sec. 2). This Act, which became law on January 1, 1970, takes into account the need to responsibly care for the environment, while continuing to "fulfill the social, economic, and other requirements of present and future generations of Americans" (42 U.S.C. 4331 Sec. 101 (a)). Such requirements include the preservation of historic, cultural, and natural heritage, as well as attaining the widest range of beneficial uses of the environment without degradation (42 U.S.C. 4331 Sec. 101 §§ b (4,3)).

B. General Applicability

This law applies whenever a federal project or a project on federal lands is undertaken. This law is applied by requiring the completion of Environmental Impact Statements (EIS). These Statements include:

- the environmental impact of the proposed action;
- any adverse environmental effects which cannot be avoided should the proposal be implemented;
- alternatives to the proposed action;
- the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and
- any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented (42 U.S.C. 4332 Sec. 102 (c)).

The EIS is to be done in consultation with the appropriate governmental agencies, such as the California Department of Fish and Game, the Federal Emergency Management Agency, and the State or Tribal Historic Preservation Officer. Once the EIS is completed then the most appropriate action is selected given the requirements of the Act.

6. National Historic Preservation Act (NHPA)

A. The Law

The National Historic Preservation Act (NHPA) (PL 89-665, 16 U.S.C. 470 et seq.) became law on October 15, 1966, but has been amended several times since. The purpose of this procedural statute is to ensure the protection and preservation of the Nation's historic properties. Historic properties consist of objects, sites, buildings, structures, and districts. Moreover, Traditional Cultural Properties, a type of historic property, may be one or a combination of the other five types. However, for a property to be considered "historic" it must be at least fifty years old.

In order to protect and preserve the National historic properties, NHPA established the National Register of Historical Places, a listing of nominated historic properties, Traditional Cultural Properties, landmarks, or other properties by the Keeper of the National Register deemed to have historical significance by National Park Services. NHPA also established the Section 106 process, a procedural requirement that assesses federal undertakings affects on historic properties.

Moreover, NHPA:

- created an Advisory Council on Historic Preservation (ACHP), a federal agency with oversight of Section 106; establishes State Historic Preservation Officer (SHPO) responsibilities to protect historic properties throughout the State;
- allows Indian tribes the option of forming a Tribal Historic Preservation Office (THPO) in lieu of the SHPO;
- authorizes federal funding of historic preservation programs at the state and tribal levels;
- bestows Section 110 responsibilities on all federal agencies; and
- provides for the confidentiality of sensitive historic property information.

B. General Applicability

Section 106 applies in all federal undertakings and is regulated at 36 CFR Part 800. Regulations require that an Agency with a federal undertaking:

- establish an Area of Potential Effect (APE);
- consult with tribes on presence of historic properties within the APE;

- conduct archival, state and tribal preservation inventories, and National Register, requests as to the location of Historic Properties within or near the APE;
- determine and survey the APE in consultation with tribes;
- produce a professional report detailing the level of survey effort;
- determine eligibility of Historic Properties to the National Register;
- assess affects to any known historic properties;
- request the comment of the SHPO/THPO concerning the agencies determination and assessments;
- if, having determined a "no adverse affect' notify the ACHP;
- if having determined an "adverse affect" convene a group of interested parties and the SHPO/THPO (and invite the ACHP to participate) for the purposes of developing a Memorandum of Agreement (MOA) and Historic Preservation Management Plan that will address roles, responsibilities, and mitigations;
- a contract may be let to initiate an undertaking only after receiving concurring comments from a SHPO/THPO; or if upon receiving nonconcurring comment from a SHPO/THPO, secure the favorable, unfavorable or otherwise advisory comments from ACHP.

7. American Indian Religious Freedom Act (AIRFA)

A. The Law

The American Indian Religious Freedom Act (AIRFA) was passed on August 11, 1978 and has only been amended once (PL 95-341, 42 U.S.C. 1996 and 1996a). The purpose of this Act is to establish that the policy of the United States is

to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites (42 U.S.C. 1996 Sec. 1).

Although the intent of this Act is admirable, it is purely a policy statement, therefore, one major flaw is that this Act does not create cause of action or judicially enforceable rights in favor of individual Indians (See *Attakai v. U.S.*, D.Ariz.1990, 746 F.Supp. 1395).

B. General Applicability

In order to reflect this purpose in federal policy, the Act requires that the Federal departments, agencies, and other entities responsible for administering relevant laws, reevaluate their policies and procedures by direction of the President and in consultation with Native American traditional religious leaders. Necessary changes should be made in order to "protect and preserve Native American religious cultural rights and practices" (42 U.S.C. 1996 Sec. 2).

8. Archaeological Resources Protection Act (ARPA)

A. The Law

The purpose of the Archaeological Resources Protection Act of 1979 (ARPA) (16 U.S.C. 470) is to ensure the protection of archeological resources on public and Indian lands. Archeological resources are "any material remains of past human life or activities which are of archaeological interest..." (16 U.S.C. 470bb Sec. 3 (1)). This may include pottery, rock paintings, graves, nonfossilized and fossilized paleontological specimens, and village sites. However, "[n]o item shall be treated as an archaeological resource under regulations...unless such item is at least 100 years of age" (16 U.S.C. 470bb Sec. 3 (1)).

This Act is concerned with the protection of archeological resources, therefore, the excavation, removal, or any other created damage without the proper permit will be found in violation of this Act and be subject to both criminal and civil penalties (16 U.S.C. 470ee Sec. 6, 16 U.S.C. 470ff Sec. 7). Key points of the Act are listed below.

- A permit may be obtained from the Federal land manager to any applicant who is qualified and planning an archaeological excavation for such activity and if the excavation is for the purpose of furthering archaeological knowledge in the public interest (16 U.S.C. 470cc Sec.4 (b)).
- Any archaeological resources that are excavated or removed, however, will remain the property of the United States (16 U.S.C. 470cc Sec. 4 (b) (3)).
- Nature and locational information of any archaeological resources found will remain confidential (16 U.S.C. 470hh Sec. 9).
- If the permit issued may result in any harm or destruction to any Indian religious or cultural site then, prior to issuing the permit, the Federal land manager must notify any Indian tribe, which may consider the site of cultural and/or religious significance (16 U.S.C. 470cc Sec. 4 (c)).
- If the archaeological site is on tribal land, then the permit may only be granted after obtaining consent form the Indian tribe or person owning or having jurisdiction over the land. In addition, any request from the tribe or individual must be included and adhered to, (16 U.S.C. 470cc Sec. 4 (4) (g) (2)) including any exchange or ultimate disposition of the resources (16 U.S.C. 470dd Sec. 5 (2)).

B. General Applicability

This Act applies only to archeological resources located on public and Indian lands. "Public lands," means lands owned and administered by the United States as part of the National Park system, the National Wildlife Refuge system, the National Forest system, all other lands held in fee by the United States, and lands under the jurisdiction of the Smithsonian Institution (16 U.S.C. 470bb Sec. 3 (3)). "Indian lands," are all lands held in trust by the United States for any Indian tribe or person (16 U.S.C. 470bb Sec. 3 (5)).

Although a permit is required for most archeological excavation or removal, no permit shall be required for the excavation or removal by an Indian tribe or member located on Indian lands, except in the absence of tribal law regulating such activity (16 U.S.C. 470cc Sec. 4 §§ 4 (g)(1)).

9. Native American Graves Protection and Repatriation Act (NAGPRA)

A. The Law

The Native American Graves Protection and Repatriation Act (NAGPRA) (PL 101-601, 25 U.S.C. 3001 et seq.) was passed on November 16, 1990 for the purpose of providing guidelines to support the protection and repatriation of Native American remains, funerary objects, sacred objects, and other materials of cultural patrimony. Section 3 of the Act states that the "ownership or control of Native American cultural items which are excavated or discovered on Federal or tribal lands after November 16, 1990, shall be..." granted (with priority in order listed) to:

- (1) in the case of Native American human remains and associated funerary objects, in the lineal descendants of the Native American; or
- (2) in any case in which such lineal descendants cannot be ascertained, and in the case of unassociated funerary objects, sacred objects, and objects of cultural patrimony-
 - (A) in the Indian tribe or Native Hawaiian organization on whose tribal land such objects or remains were discovered;
 - (B) in the Indian tribe or Native Hawaiian organization which has the closest cultural affiliation with such remains or objects and which, upon notice, states a claim for such remains or objects; or
 - (C) if the cultural affiliation of the objects cannot be reasonably ascertained and if the objects were discovered on Federal lands that is recognized by a final judgment of the Indian Claims Commission or the United States Court of Claims as the aboriginal land of some Indian tribe-
 - (1) in the Indian tribe that is recognized as aboriginally occupying

the area in which the objects were discovered, if upon notice, such tribe states a claim for such remains or objects, or

(2) if it can be shown by a preponderance of the evidence that a different tribe has a stronger cultural relationship with the remains or objects than the tribe or organization specified in paragraph (1) (under subsection C), in the Indian tribe that has the strongest demonstrated relationship, if upon notice, such tribe states a claim for such remains or objects.

If the objects are not claimed, then the Secretary will consult with the Native American Graves Protection and Repatriation Review Committee, established under Section 8 of this Act, Native American groups, representatives of museums and the scientific community in order to establish the proper placement of the objects. In addition, if such items are intentionally removed, then they must be done so according to the Archaeological Resources Protection Act of 1979, which is described and discussed above.

This Act is not only concerned with the finding of Native American remains and other significant cultural items, but is also concerned with the repatriation of such objects that were taken prior to the establishment of NAGPRA. Section 5 and 6 requires that any federally funded museum or Federal agency that holds such items must make an inventory of those items, summarize the holdings, notify the appropriate Native American tribe or Native Hawaiian organization, and repatriate the remains or items where appropriate, which is regulated at 43 CFR part 10. Guidance is also provided for situations of inadvertent discovery and the illegal trafficking and sale of human remains.

B. General Applicability

NAGPRA applies to any Native American human remains, funerary objects, sacred objects, and other items of cultural patrimony that are found or located on federal or tribal land. This may include archeological sites, museums, and within federal agencies.

II. State Laws

1. California Coastal Act (CCA)

A. The Law

The California Coastal Act (CCA) (CA Pub. Res. Code Sec. 30000 et seq.) was enacted by the State Legislature in 1976 in a state response to the Federal Coastal Zone Management Act and in order to protect and preserve California's coastline. This includes:

- the protection and expansion of public access, restoration of environmentally sensitive habitats;
- protection of productive agricultural lands, commercial fisheries, and archeological resources;
- protection of scenic beauty;
- establishment of urban-rural boundaries to direct new housing and other development into areas with adequate services;
- expansion of existing industrial development in an environmentally sound manner; and
- the protection against loss of life and property.

This Act created a partnership between the State and local governments to manage, develop, and preserve resources along the coast through a planning and regulatory program. This was done through the development of the Coastal Commission and Local Coastal Programs (LCP).

The primary purpose of the Coastal Commission is to work with local governments to ensure that the policies of the Coastal Act are adhered to. In addition, the Commission is responsible for:

- issuing permits for new development on the immediate shoreline;
- hear appeals from permit decisions made by local governments;
- review all amendments to previously approved land use plans;
- review and act on all federal activities that affect coastal resources;
- periodically review each certified LCP;
- maintain a Coastal Resource Information Center;
- continue public education and involvement programs;
- issue permits for all offshore oil and gas development within the State's three-mile jurisdiction; and
- work with the state water quality control agencies to implement strategies to reduce pollution of coastal waters from nonpoint sources.

The LCPs are developed to carry out the partnership between the State and local governments and provide for local governments the responsibility of caring for their local coastlines. The fundamental components of a LCP are:

- to identify future developments;
- develop and implement a land-use plan; and
- determine the short and long-term conservation and use of coastal resources unique to that local area.

Once the Commission has approved a LCP, then the coastal permitting authority over most new development is transferred to the local government.

B. General Applicability

The California Coastal Act applies to the "coastal zone," which is defined as the "land and water area of the State of California from the Oregon border to the border of the Republic of Mexico" (CA Pub. Res. Code 30103(a)). In addition, all offshore islands, the land extending:

inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, which ever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission..." (CA Pub. Res. Code 30103(a).

Permitting is necessary for any development in the coastal zone. Such permits may be acquired through the local government if they have been authorized by the Coastal Commission through the enactment of an approved LCP to issue certain permits. However, offshore oil permits and permits to develop on the immediate shoreline, defined as tidelands, submerged lands, and public trust lands remain the responsibility of the Commission. Many types of developments are exempt from the permitting process. This may include most repairs and improvements to a single-family home and the replacement of any structure destroyed by natural disaster.

2. California Marine Life Protection Act (MLPA)

A. The Law

The 1999 Marine Life Protection Act (MLPA) mandated that the state design and manage an improved network of marine protected areas to, among other things, protect marine life and habitats, marine ecosystems, and marine natural heritage. Marine protected areas include marine reserves,

marine parks and marine conservation areas (California Department of Fish and Game 2004).

The act outlines the creation of a commission that will adopt a master plan that guides the adoption and implementation of the Marine Life Protection Program.

The MLPA is cited in the California Fish & Game Code §§ 2850-2863. Relevant sections are listed below.

§ 2851. Legislative Findings

The Legislature finds and declares all of the following:

- (a) California's marine protected areas (MPAs) were established on a piecemeal basis rather than according to a coherent plan and sound scientific guidelines. Many of these MPAs lack clearly defined purposes, effective management measures and enforcement. As a result, the array of MPAs creates the illusion of protection while falling far short of its potential to protect and conserve living marine life and habitat.
- (b) California's extraordinary marine biological diversity is a vital asset to the state and nation. The diversity of species and ecosystems found in the state's ocean waters is important to public health and well-being, ecological health, and ocean-dependent industry.
- (c) Coastal development, water pollution, and other human activities threaten the health of marine habitat and the biological diversity found in California's ocean waters. New technologies and demands have encouraged the expansion of fishing and other activities to formerly inaccessible marine areas that once recharged nearby fisheries. As a result, ecosystems throughout the state's ocean waters are being altered, often at a rapid rate.
- (d) Fish and other sea life are a sustainable resource, and fishing is an important community asset. MPAs and sound fishery management are complementary components of a comprehensive effort to sustain marine habitats and fisheries.
- (e) Understanding of the impacts of human activities and the processes required to sustain the abundance and diversity of marine life is limited. The designation of certain areas as sea life reserves can help expand our knowledge by providing baseline information and improving our understanding of ecosystems where minimal disturbance occurs.
- (f) Marine life reserves are an essential element of an MPA system because they protect habitat and ecosystems, conserve biological diversity, provide a sanctuary for fish and other sea life, enhance recreational and educational opportunities, provide a reference point against which scientists can measure changes elsewhere in the marine environment, and may help rebuild depleted fisheries.

- (g) Despite the demonstrated value of marine life reserves, only 14 of the 220,000 square miles of combined state and federal ocean water off California, or six-thousandths of 1 percent, are set aside as genuine no take areas.
- (h) For all of the above reasons, it is necessary to modify the existing collection of MPAs to ensure that they are designed and managed according to clear, conservation-based goals and guidelines that take full advantage of the multiple benefits that can be derived from the establishment of marine life reserves.

§ 2853. Program Goals

- (a) The Legislature finds and declares that there is a need to reexamine and redesign California's MPA system to increase its coherence and its effectiveness at protecting the state's marine life, habitat, and ecosystems.
- (b) To improve the design and management of that system, the commission, pursuant to Section 2859, shall adopt a Marine Life Protection Program, which shall have all of the following goals:
 - (1) To protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems.
 - (2) To help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted.
 - (3) To improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity.
 - (4) To protect marine natural heritage, including protection of representative and unique marine life habitats in California waters for their intrinsic value.
 - (5) To ensure that California's MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based on sound scientific guidelines.
 - (6) To ensure that the state's MPAs are designed and managed, to the extent possible, as a network.
- (c) The program may include areas with various levels of protection, and shall include all of the following elements:
 - (1) An improved marine life reserve component consistent with the guidelines in subdivision (c) of Section 2857.
 - (2) Specific identified objectives, and management and enforcement measures, for all MPAs in the system.

- (3) Provisions for monitoring, research, and evaluation at selected sites to facilitate adaptive management of MPAs and ensure that the system meets the goals stated in this chapter.
- (4) Provisions for educating the public about MPAs, and for administering and enforcing MPAs in a manner that encourages public participation.
- (5) A process for the establishment, modification, or abolishment of existing MPAs or new MPAs established pursuant to this program, that involves interested parties, consistent with paragraph (7) of subdivision (b) of Section 7050, and that facilitates the designation of MPAs consistent with the master plan adopted pursuant to Section 2855.

B. General Applicability

Legislation requires that the Department of Fish and Game develop a plan for establishing networks of marine protected areas in California waters to protect habitats and preserve ecosystem integrity, among other things. The following information provides a brief overview of the Marine Life Protection Act (MLPA).

The master plan is required to include recommendations for a preferred alternative network of MPAs with "an improved marine life reserve component" (Section 2853(c)(1)). The MLPA further states that "it is necessary to modify the existing collection of MPAs to ensure that they are designed and managed according to clear, conservation-based goals and guidelines that take full advantage of the multiple benefits that can be derived from the establishment of marine life reserves" (Section 2851(h)) (California Department of Fish and Game 2004).

3. Porter-Cologne Water Quality Control Act

A. The Law

The Porter-Cologne Water Quality Control Act (CA Water Code Sec. 13000 et seq.) was enacted in 1969 to implement the requirements of the Federal Clean Water Act by establishing the State of California as the entity responsible for ensuring the regulations and requirements of the Clean Water Act are being met within the waters of California. The State Water Resources Control Board was established in this Act, which is required to adopt state policy for water quality control, issue the necessary permits, monitor water quality, designate Areas of Special Biological Significance (ASBS), and is authorized to exercise any other powers delegated to the state by the Clean Water Act. In addition, nine Regional Boards, which were established in 1949 were maintained by this Act, which adopt and implement water quality control plans, which recognize the unique characteristics of each region with regard to natural water quality, actual and past, present, and future probable beneficial uses are designated, and water quality problems.

The Water Quality Control Plan for the North Coast Region is the local, regional function of both the Clean Water Act (33 U.S.C. 1251 Sec. 101-607) and the Porter-Cologne Water Quality Control Act (CA Water Code Sec. 13000 et seq.). The Dickey Act of 1949 established nine regional water pollution control boards. In the Porter-Cologne Water Quality Control Act, these boards were changed and their authority broadened. The board with authority over the area of Trinidad is the North Coast Regional Water Quality Control Board, which adopted their first comprehensive plan in 1971. The initial function of the Board was to design a water quality control plan unique to the local landscape, seek and consider public input on that plan, and submit the plan to the State Water Board for approval. The Regional Water Board implements plans to achieve water quality levels, monitor, issue permits, and enforce water quality regulations.

The Water Quality Control Plan for the North Coast Region applies to the waters within the North Coast Region, which is defined as:

all basins including Lower Klamath Lake and Lost River Basins draining into the Pacific Ocean from the California-Oregon state line southerly to the southerly boundary of the watershed of the Estero de San Antonio and Stemple Creek in Marin and Sonoma Counties (CA Water Code Sec. 13200(a)).

This North Coast Region is then divided into two natural drainage basins, the North Coastal Basin and the Klamath River Basin, of which Trinidad is included in the latter.

B. General Applicability

The Porter-Cologne Water Quality Control Act applies to any water within the State of California, as well as applies equally to point and nonpoint source pollution.

4. California Endangered Species Act (CESA)

A. The Law

The California Endangered Species Act (CESA) (CA Fish Code Sec. 2050-2116) protects state-listed endangered and threatened species and mandates that endangered and threatened species may not be taken, imported, exported, or sold. In addition, habitat will be protected and purchased where available in order to provide the proper environment for endangered and threatened species. CESA also requires that projects do not negatively impact those species or their habitats. CESA often requires consultation with the California Fish and Game Department to determine whether a project will impact species, and to determine appropriate measures should a project be proposed within known or likely habitat for a species.

B. General Applicability

The CESA applies throughout the State of California. Inventory and maps have been compiled of areas of habitat containing endangered or threatened species by the California Department of Fish and Game. Although the primary purpose of CESA is to protect endangered and threatened species, such species may be allow to be the taken if the proper permits have been issued, or as provided in the Native Plant Protection Act (CA Fish Code Sec. 1904).

5. California Environmental Quality Act (CEQA)

A. The Law

The California Environmental Quality Act (CEQA) (Pub. Res. Code Sec. 15000 et seq. and implementing guidelines at Sec. Title 14 California Code of Regulations Chap. 3, Art. 1-20 and Sec. 15000 to 15387) is intended to develop and maintain a high-quality environment and specifically to identify significant environmental effects of actions, avoid those effects where feasible, and mitigate those effects where feasible. CEQA requires that several determinations must be made for each proposed activity.

- It must first be determined whether the proposal meets the definition of a "project" under CEOA.
 - o "Projects" are activities, which may potentially have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits, and the approval of tentative subdivision maps (Pub. Res. Code §15378).
- If it is determined that the proposed activity is a "project," then the project shall be evaluated to determine if it is exempt from CEQA.
- If the project is not exempt, an initial study shall be prepared to identify the environmental impacts of the project and determine if any of those impacts are significant.
- Based upon findings of significance, one of the following three documents shall be prepared;
 - (1) a negative declaration if there are no significant environmental impacts;
 - (2) a mitigated negative declaration if there are significant impacts which can be avoided or mitigated through project revision; or
 - (3) an Environmental Impact Report (EIR) if there are significant impacts.

B. General Applicability

CEQA applies to any proposed projects that require California state or local government agency discretionary permit approval, including permitting, in order to be undertaken. This includes proposed development projects, as well as to effects on cultural resources.

6. California Public Records Act

A. The Law

The California Public Records Act (CA Government Code Sec. 6250 et seq.) establishes "that access to information concerning the conduct of the people's business is a fundamental and necessary right of every person in this state" (CA Government Code Sec. 6250). This accessible information includes all public records, except those deemed exempt, which are provided in detail in the Act.

When an individual or agency requests copies of public records, an exact copy shall be provided unless it is impractical to do so. Computer data shall be provided in a form determined by the agency that is receiving the request for documentation. Upon receiving a request for information, the agency shall have 10 days to determine whether they will comply with the request and shall immediately notify the person making the request of such determination and the reasons thereof (CA Government Code Sec. 6256). Actions may be taken at this point to either extend the 10 day period, or bring action against the agency refusing the relinquished the desired information (CA Government Code Sec. 6256.1-6259).

B. General Applicability

The California Public Records Act is only concerned with public records, which is defined as,

any writing containing information relating to the conduct of the public's business prepared, owned, used, or retained by any state or local agency regardless of physical form or characteristics. "Public records" in the custody of, or maintained by, the Governor's office means any writing prepared on or after January 6, 1975 (CA Government Code Sec. 6252 (d)).

There is some information considered exempt from public knowledge that may pertain to the issues of the Tsurai Management Plan within this Act.

- Temporary drafts, notes, or interagency or intra-agency memos that are not retained by the public agency in the ordinary course of business, provided that the public interest in withholding those records clearly outweighs the public interest in disclosure (CA Government Code Sec. 6254 (a)).
- Records pertaining to pending litigation to which the public agency is a party, until the pending litigation or claim has been finally adjudicated or otherwise settled (CA Government Code Sec. 6254 (b)).
- The contents of real estate appraisals or engineering or feasibility estimates and evaluations made for or by the state or local agency relative to the acquisition of property, or to prospective public supply and construction contracts, until all the

property has been acquired or all the contract agreement obtained. However, the law of eminent domain shall not be affected by this provision (CA Government Code Sec. 6254 (h)).

- Records the disclosure of which is exempted or prohibited pursuant to federal or state law, including, but not limited to, provisions of the Evidence Code relating to privilege.
- Records of Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission (CA Government Code Sec. 6254 (r)).
- Records that relate to archeological site information maintained by the Department of Parks and Recreation, the State Historical Resources Commission, or the State Lands Commission (CA Government Code Sec. 6254.10).

There are several exemptions to the California Public Records Act, however, if an exemption is waived for one member of the public, then the same exemptions are waived for all members of the public (CA Government Code Sec. 6254.5).

7. Traditional Tribal Cultural Places (SB 18)

A. The Law

The Traditional Tribal Cultural Places Bill (CA SB 18) was passed into law September 29, 2004. The Governor's Office of Planning and Research is developing implementing guidelines. The purpose of this Bill is to prevent severe and irreparable damage to, or assure appropriate access for Native Americans to Native American sanctified cemeteries, places of worship, religious or ceremonial sites, and/or sacred shrines that are located on public property. The California State Legislature recognizes that Native American cultural places are not always within tribal property, but this should in no way prevent them from being protected or accessed by Native American people.

In order to ensure such protection and access, this Bill requires that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the Native American Heritage Commission be consulted when dealing with public property deemed to have a Native American cultural place. In addition, this Bill asserts that a state-mandated element be added to all local government plans requiring a city or county to consult with the appropriate California Native American tribe(s) prior to the adoption or amendment of the city or county's general plan for the purpose of preserving specified places, features, and objects that are located within the local government's jurisdiction. Such consultation must be done in a manner that respects both entities' separate and independent sovereignty. Consultation will determine the level of confidentiality, proper treatment, and need for management plans pertaining to specific locations. Lastly, this Bill allows for California Native American tribes to acquire and hold conservation

easements. The information about and location of California Native American cultural places shall remain confidential and are not subject to California's Public Records Act.

B. General Applicability

The Traditional Tribal Cultural Places Bill applies to state public lands within the State of California.

8. Cultural Resources Protection: California Public Resources/Penal/Health and Human Safety Codes: Relevant Sections

I. Removal or Destruction; Prohibition (CA Pub. Res. Code Sec. 5097.5)

A. The Law

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public land, except with the express permission of the public agency having jurisdiction over the lands. Violation of this section is a misdemeanor (CA Pub. Res. Code Sec. 5097.5 (a)).

B. General Applicability

This law pertains to all public lands within the State of California. "Public lands" means "lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof" (CA Pub. Res. Code Sec. 5097.5(b)).

II. Felony Possession of Native American Human Remains and Artifacts (CA Pub. Res. Code Sec. 5097.99)

A. The Law

No person shall obtain or possess any Native American artifacts or human remains, which are taken from a Native American grave or cairn on or after January 1, 1984, except as otherwise provided by law or in accordance with an agreement reached pursuant to subdivision (1) of Section 5097.94 or pursuant to Section 5097.98 (CA Pub. Res. Code Sec. 5097.99 (a)).

Any person who removes, without authority of law, any Native American artifacts or human remains from a Native American grave or cairn with an intent to sell or dissect or with malice or wantonness is guilty of a felony...(CA Pub. Res. Code Sec. 5097.99 (c)).

Anyone who is found to be in violation of these laws is guilty of a felony and may be imprisoned.

B. General Applicability

This law applies throughout the State of California, regardless of land ownership.

III. Destruction, Defacement of Objects of Archaeological or Historical Interest (CA Penal Code Sec. 6221/2).

A. The Law

Every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archaeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor (CA Penal Code Section 6221/2).

B. General Applicability

This law applies to all land within the State of California, including both private and public lands.

IV. Removal of Human Remains (CA Health Code Sec. 7050.5)

A. The Law

Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor (CA Health Code Sec. 7050.5 (a)).

However, such an action, in regards to Native American remains will be considered a felony under Section 5097.99 of the California Public Resources Code.

The law goes on to state that

in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to the provisions of the Government Code Sec. 27491...(CA Health Code Sec. 7050.5(b)).

This Government Code is concerned with the investigation of remains that are the possible result of a violent or sudden death. The Removal of Human Remains law concludes by stating,

if the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (CA Health Code Sec. 7070.5 (c)).

The Native American Heritage Commission will provide Native American contact information to the coroner (or other parties to the discovery) for the purposes of consultations with Native American tribes and individuals concerning treatment of the remains with proper respect and dignity.

B. General Applicability

This law applies to any human remains found in or from any location other than a dedicated cemetery throughout the State of California. Such removal or disturbance of human remains are against the law unless the action is due to Section 5097.94 (1) of the Public Resources Code, which allows for the assistance by "interested landowners in developing agreements with appropriate Native American groups for treating or disposing, with appropriate dignity, of the human remains and any items associated with Native American burials." In addition, this law does not apply to any person authorized to implement Section 5097.98 of the Public Resources Code, which is concerned with repatriating human remains thought to be Native American to the proper tribal group.

V. Repatriation (CA Pub. Res. Code Sec. 5097.991)

A. The Law

It is the policy of the state that Native American remains and associated grave artifacts shall be repatriated (CA Pub. Res. Code Sec. 5097.991).

B. General Applicability

This policy extends throughout the State of California, including the collections of Museums and Universities.

VI. California Native American Graves Protection and Repatriation Act (CA Health Code Sec. 8010-8029)

A. The Law

The California Native American Graves Protection and Repatriation Act was passed in 2001 for the purpose of "provid[ing] a seamless and consistent state policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect" (CA Health Code Sec. 8011(a)). This act is the State-equivalent to the Native American Graves Protection and Repatriation Act (25 U.S.C. Sec. 3001 et seq.), and was enacted in order to facilitate the implementation of some provisions of the federal act. This includes facilitating the inventory and return of remains and cultural items from public agencies and museums. In addition, the California NAGPRA creates a Repatriation Oversight Commission and can enforce penalties if public agencies and museums do not comply with NAGPRA.

B. General Applicability

The California Native American Graves Protection and Repatriation Act applies to all public agencies and museums in the State of California. In addition, this Act

provides a mechanism whereby California tribes who are not federally recognized may file claims with agencies and museums for repatriation of human remains and cultural items (CA Health Code Sec. 8011 (f)).

VII. Native American Historical, Cultural, and Sacred Sites; Free Exercise of Religion; Cemeteries, Place of Worship on Ceremonial Sites (CA Pub. Res. Code Sec. 5097.9)

A. The Law

No public agency, and no private party using or occupying public property, or operating on public property, under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression of exercise of Native American religion as provided in the United States Constitution and the California Constitution; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.

B. General Applicability

This law applies on public property within the State of California. However, this law shall not be construed to limit the requirements of the Environmental Quality Act of 1970. In addition, the public property of all cities and counties, except for all parklands in excess of 100 acres shall be exempt form this law. Nothing shall, however, nullify protections for Indian cemeteries under other statutes (CA Pub. Res. Code Sec. 5097.9)

III. Site specific Laws, regulations, and potential applicability

This section involves a discussion on how the pertinent laws defined in Appendix A involve the TSA.

1. Federal Laws

a) Coastal Zone Management Act (CZMA)

The TSA is wholly within the coastal zone and, therefore, the CZMA applies to federal activities within the TSA. The purposes of the CZMA apply to the TSA in many ways. In terms of protection of natural resources, the TSA does contain wildlife, vegetation, and aquatics. There is bluff failure, which causes site erosion and diminishes property. The TSA is near a pier, as well as is an area containing sensitive historic, cultural, and aesthetic features. In terms of public access, the TSA does include several trails as well, which the Coastal Conservancy holds an easement to for the purpose of providing public access to the beach.

b) Clean Water Act (CWA) (a.k.a. The Federal Water Pollution Control Act)

The waters in and around the TSA are subject to CWA and pollutants have been found in these waters. Within the TSA are three streams that flow into the Pacific Ocean at Trinidad Bay, which include Parker Creek, Pepperwood Creek, and Alder Creek. A highly likely source of both point and nonpoint source pollution is believed to be inadequate septic systems and inadequate storm drainage within the City, resulting in contaminated discharge into Trinidad Bay.

The City has received a grant to monitor, inventory, assess, and create a database of the septic systems within the City. Data collected will allow all parties to understand the nature and scope of water quality problems and identify potential solutions to halt any negative impacts on the creeks within the TSA that flow into the bay. This issue affects the health and safety of not only the TSA, but also people using the beach and harvesting marine resources from the bay.

c) Antiquities Act and California Coastal Monument Act

The sea stacks and islands that populate the Trinidad Bay and surrounding areas, including areas outside the TSA, are protected as part of the CCNM and are also traditional resources for the Yurok people. Many of these hold spiritual or ceremonial significance to Yurok culture. As components of the Yurok cultural landscape, these areas are connected directly with activities associated with Tsurai village.

d) National Endangered Species Act (ESA)

It is not known at this time if species designating protection under the ESA exist within the TSA. If such species do exist, they would be afforded protection under the Act.

e) National Environmental Policy Act (NEPA)

This Act would apply if a federal project or undertaking were proposed within the TSA.

f) National Historic Preservation Act (NHPA)

NHPA applies to federal undertakings. If federal funds, federal permits, federal licenses, or federal lands or waters are involved, NHPA applies. Federal agencies, such as Federal Highway Administration (FHWA) and Housing and Urban Development (HUD), can delegate some aspects of the Section 106 process to state and/or local governments.

g) American Indian Religious Freedom Act (AIRFA)

The TSA is a religious place for the descendents of the village and also for the Yurok People. Both the Yurok Tribe and the Tsurai Ancestral Society intend to maintain such religious ways. Should any deferral agency become involved with the TSA, the agency should consult with Tsurai and Yurok leadership in evaluating its polices and procedures.

h) Archaeological Resources Protection Act (ARPA)

The TSA has archeological remains over 100 years old. ARPA would only apply if land were transferred to federal status. If land became Indian trust lands then ARPA would apply until such time as the tribe adopts an appropriate ordinance. Such an ordinance currently exists in draft form for the Yurok Tribe.

i) Native American Graves Protection and Repatriation Act (NAGPRA)

The TSA contains Native American human remains and cultural items as defined in NAGPRA. NAGPRA eligible items from Tsurai held by federally funded museums and institutions are subject to repatriation to the Yurok Tribe under the law. NAGPRA provides for repatriation of human remains to lineal descendants and culturally affiliated Tribes.

2. State Laws

a) California Coastal Act (CCA)

The City of Trinidad, including the TSA is within the coastal zone and, therefore, the CCA applies. This ensures public access, as well as natural resource protection. The City of Trinidad adopted the first Local Coastal Program (LCP) ever approved by the State to a local government in 1978, giving the City of Trinidad coastal development permitting responsibilities.

Policy 69 is the specific policy in the Trinidad Local Coastal Plan (July 28, 1989) that deals with the protection of archeological resources within the Tsurai Study Area. The Policy states,

Within the Tsurai Study Area, shown on Plate 1B, the State Historic Preservation Officer, in cooperation with the lineal descendants of Tsurai and the Northwest Indian Cemetery Protective Association, shall investigate and establish definitive boundaries around Tsurai. There shall be no disturbance, vegetative removal or construction, except for a protective fence around the burial ground, on lands designated as Open Space within the Tsurai Study Area without the approval of the lineal descendants of Tsurai, Trinidad Rancheria, City of Trinidad, and the State Historic Preservation Officer. Lands designated as Special Environment within the Study Area may be developed as provided in the Special Environment regulations provided the State Historic Preservation Officer is consulted and reasonable measures are required to mitigate any adverse impacts on this cultural resource.

As such, this site is covered by an Open Space and Special Environment land use plan and zoning district designations, which severely limit any new development on the site. The City of Trinidad has, on several documented occasions, ignored the consultation process of Policy 69. Policy 69 includes the requirement that all of the parties included in the Policy must approve any vegetation removal done within the TSA. There have been numerous instances where that City has failed to perform the necessary consultation when conducting projects within the TSA. The City has also taken actions toward amending Policy 69 to only require a "majority of the entities" approval to properly adhere to Policy 69, rather than approval from all entities that is currently required (Trinidad City Council 1991:258-259).

b) California Marine Life Protection Act

The Kelp Beds at Trinidad Bay have been designated as an Area of Special Biological Significance under the provisions of the Marine Life Protection Act. The Act prohibits the pollution of protected areas. City runoff and contaminated discharge through the streams that pass through the TSA and into Trinidad Bay may be a violation of the provisions of the MLPA.

c) Porter-Cologne Water Quality Control Act

The State Water Resources Control Board designated the kelp beds at Trinidad Head as an Area of Special Biological Significance (ASBS) in 1974. This designation came under the several plans within the Porter-Cologne Water Quality Control Act. These plans include the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California and the Water Quality Control Plan for Ocean Waters of California. Within ASBS general regulations

have been established. These regulations include the prohibition of discharge of elevated temperature wastes in a manner that would alter water quality conditions from those occurring naturally; the prohibition of discharge of discrete, point-source sewage or industrial process wastes in a manner that would alter water quality conditions from those occurring naturally; and the control of discharge of waste from nonpoint sources, including but not limited to storm water runoff, silt, and urban runoff.

The primary agency responsible for the care of the kelp beds at Trinidad Head is the State Water Resources Control Board. The secondary agencies responsible are the Regional Water Quality Control Board and the California Department of Fish and Game. These agencies are concerned with the care of the kelp beds and have not established harvesting regulations or fishing regulations in this area. In addition, the regulations accompanying the ASBS designation are not applicable to vessel wastes, the control of dredging, or the disposal of dredging spoil.

The kelp beds at Trinidad Head include an area directly offshore of the TSA, extending into Trinidad Bay. It is believed that both point and nonpoint source pollution flows within the TSA, the three creeks, and into the Bay (Trinidad Planning Commission 2001:A2-15).

d) California Endangered Species Act (CESA)

It is not conclusive whether there are any endangered or threatened species within the TSA. A biological survey needs to be completed before a proper assessment and determination may be made. CESA provides protection to species unique to California and not covered under the ESA. If CESA designated species are determined to exist within the TSA, they will be subject to protection under the Act.

e) California Environmental Quality Act (CEQA)

As long as the TSA remains in local or state ownership CEQA applies to any activities/projects proposed for the TSA. CEQA will apply to any projects undertaken on the TSA that involve approval or funding by state and local public agencies, regardless of ownership.

f) California Public Records Act

Cultural resources information is considered exempt for the California Public Records Act.

g) Traditional Tribal Cultural Places

The TSA is a sacred place, containing a Native American cemetery, religious and ceremonial sites. SB 18, as further clarified in forthcoming guidelines, would require the

City of Trinidad to initiate on-going Native American consultation with regard to TSA and other culturally sacred places within its jurisdiction and amend the City's Local Coastal Program to incorporate the results of such consultation. The Yurok Tribe, per this bill, may also hold conservation easements on any prehistoric, archeological, cultural, spiritual or ceremonial places.

h) Cultural Resources Protection: California Public Resources/Penal/Health and Human Safety Codes: Relevant Sections

(1) Removal or Destruction; Prohibition (CA Pub. Res. Code Sec. 5097.5)

The illegal and unauthorized removal and destruction of cultural resources from the TSA has been a recurring problem spanning several decades. Under current ownership, this law prohibits such removal and destruction.

(2) Felony Possession of Native American Human Remains and Artifacts (CA Pub. Res. Code Sec. 5097.99)

There is a documented history of the illegal possession and extraction of Tsurai artifacts and human remains. Tsurai human remains were discovered in a residential closet in an abandoned house in the State of Washington. The coroner returned the remains to the Yurok Tribe for reburial. The remains were reburied at the site and no one was arrested.

(3) Destruction, Defacement of Objects of Archaeological or Historical Interest (CA Penal Code Sec. 6221/2)

This law applies to the TSA.

(4) Removal of Human Remains (CA Health Code Sec. 7050.5)

There have been instances where human remains were taken from the TSA as documented by the TAS, the Yurok Tribe, long-time residents, and local newspapers, as well as acknowledged by past and present Trinidad City Council members and Mayors. Trinidad's Police Department has routinely cooperated with the Yurok Tribe and other agencies in the proper handling of human remains from the site.

(5) Repatriation (CA Pub. Res. Code Sec. 5097.991)

Native American human remains taken from Tsurai have been repatriated to the Yurok Tribe and the Tsurai Ancestral Society, which were reburied within the TSA in July 2002 and September 2003.

(6) California Native American Graves Protection and Repatriation Act (CA Health Code Sec. 8010-8029)

This Act applies to items excavated and removed from the TSA under state permits. Such items are stored in state facilities and the Yurok Tribe is seeking the repatriation of those items.

APPENDIX B: Yurok Cultural Context

The traditional names for the Yurok people living on the upper region of the Klamath River, lower region of the Klamath River, and the coast within Yurok Ancestral Territory are the Petch-ik-lah, Pohlik-la, and Nr'r'nr people, respectively. However, they have come to be known collectively as the Yurok, which is a Karuk word meaning "downriver". Although all the villages within Yurok Ancestral Territory are culturally and jurisdictionally Yurok, there is a cultural and linguistic distinction between those Yuroks residing within river villages and those along the coast. Coastal Yuroks living south of the mouth of Redwood Creek (Orek) are commonly referred to as Nr'r'nr. Yurok people from Tsurai are one of several coastal Yurok communities that are known as Nr'r'nr people. The other villages that comprise the Nr'r'nr area, beginning to the north are Orek, Orau, Tsahpekw, Hergwer, Tsotskwi, Pa'ar, Oslokw, Keikem, Ma'ats, Opyuweg, Pinpa, and Sumeg.

The ancestral territory of the Yurok people is comprised of a narrow strip along the Pacific Ocean stretching north from the village on the Little River (Me'tsko or Srepor) in Humboldt County to the mouth of Damnation Creek in Del Norte County. In addition to the Yurok coastal lands, Yurok ancestral territory extends inland along the Klamath River from the mouth of the river at Requa (Re'kwoi) to the confluence of Slate Creek and the Klamath River (Yurok Tribe Art. 1, Sec. 1). Within this ancestral territory there are approximately seventy known villages, which are situated along the banks of the Klamath or along the ocean streams, lagoons, and bays (Kroeber 1925:8, Waterman 1920, Pilling 1978). Many of these villages were permanent settlements, particularly the villages where ceremonial dances were held, while others were only temporarily inhabited. Each village had its own geographical boundaries, as well as its own leaders who governed various sites and activities within the village. These sites included fishing and hunting spots, permanent home sites, seasonal sites, gathering areas, training grounds, and spiritual power sites (Lindgren 1991).

Although there were villages all along the river and coast, a village of great importance would have several other villages in close proximity in a concentrated area. An example of this is at the confluence of the Klamath and Trinity Rivers where there were three villages, which in the 1850s had a population of about 200 (Bearss 1982:1). The largest of these three villages was We'itspus, meaning "confluence." This village was of extreme importance because it held a World Renewal Ceremony, also known as the White Deerskin Dance. This is one of several important ceremonies in the Yurok religion as its purpose is to renew or maintain the health of the entire world. The location of the village of We'itspus is on the north bank of the Klamath River and directly across from We'itspus, on the other side of the river was the village of Rlrgr. The third village in this close proximity was located across the Trinity River from Rlrgr and known as Pek-tul.

Similarly in the middle course of the river is the village of Pecwan, located just downstream of Pecwan Creek from where the creek flows into the Klamath River. This is a village of great importance and wealth because Pecwan was a location for another major ceremony, the Jump Dance, which continues to be performed today. The other villages in close proximity to Pecwan moving downstream on the northern bank are Qo'tep, Woxtek, and Woxhkero.

The final example of a concentration of River villages is at the mouth of the Klamath River. On the northern slope of the hill ascending above the mouth is the largest Yurok settlement of Re'kwoi. In 1852, Re'kwoi had 116 residents and is another location for a Jump Dance (Bearss 1982:2). Just across the river on the southern side is the village of Welkwa. This village is the site of the annual Salmon Ceremony, which is performed to remove the effect of the taboo on the run of spring salmon (Waterman 1920:228). The last village in close proximity to the village of Re'kwoi is Tse'kwel.

There are many other Yurok villages residing along the Klamath River, as well as along the coast of the Pacific Ocean. The villages on the coast are primarily concentrated around lagoons and ocean streams, areas providing access to abundant natural resources. An example of such a concentration is the many villages that are located around Big Lagoon. Beginning to the north and continuing south along the eastern shore of the lagoon were the villages of Pa'ar, Oslokw, Keihkem, Maats, Pinpa, and Opyuweg, which is sometimes referred to as Ok'eto. Opyuweg means, "where they dance" as this is another village where a Jump Dance was held (Waterman 1920:266).

Although various treaties were signed, they were not ratified by the United States Senate, an action required in order to make the treaties legally binding. Non-Indian incursions, settlement, and vigilantism continued and an Indian Agency and military fort were established on the River to mediate the conflict. This Agency was located on the south banks of the mouth of the Klamath River, in the area known as Waukel (also spelled Wo'kel and Waukell). Across the river from the Agency was the military fort, Fort Terwer. In spite of the establishment of these governmental posts gold prospectors, miners, farmers, and settlers continued to encroach on Indian lands, resulting in ongoing violent conflicts.

Although the 1851 Treaty of Peace and Friendship was never ratified, a landbase was established for the Yurok Tribe. On November 16, 1855 the Klamath River Reserve, also known as the Old Klamath Indian Reservation was created by Executive Order (pursuant to the Act of March 3, 1853, 10 Stat. 226, 238). This Order designated reservation lands one-mile on each side of the Klamath River; from the mouth of the river to Tectah Creek, which is approximately twenty miles upriver. The Klamath Reserve was established, not only for the Yurok, but also for several tribes because the intent was to consolidate people of other tribes on the Reserve as well. Many Tolowa were moved onto the Reserve, but soon returned to their homeland in Del Norte County (Bearss 1982:85).

Both Fort Terwer and the Indian Agency at Waukel were destroyed in the floods of 1861 and 1862 and the locations were abandoned (Bearss 1982:98, 112). The Smith River Reservation, occupied primarily by Tolowa, was created in 1862 to supplement the loss of agricultural lands as a result of the floods (Bearss 1982:113-114). In 1864 the Hoopa Valley Indian Reservation, located along the Trinity River in Humboldt County was established by Executive Order by President Grant. The intent of the Hoopa Reservation was for relocating all northwestern California Indians to this reservation (Eidsness 1988:29; Bearss 1982:114, Nelson 1988:89).

The establishment of these reservations also did not halt the constant encroachment of non-Indian settlers, miners, entrepreneurs, ranchers, and gold prospectors. The area within the boundaries of the Klamath River Reserve was increasingly occupied by non-Indians despite the 1855 Executive Order and the 1877 Order from the Department of the Interior, explicitly ordering the evacuation of non-Indian settlers from the Reserve. Escalating conflict on the Klamath Indian Reserve resulted in the gradual displacement of Lower Klamath Yurok Indians further upriver during the 1860s and 1870s (Eidsness 1988:29; McBeth 1950:44).

In 1891, President Harrison issued an order to expand the existing Hoopa Valley Indian reservation to include lands one mile on each side of the Klamath River from the confluence of the Klamath and Trinity Rivers at Weitchpec to the Pacific Ocean, thereby including the Klamath Indian Reserve (Eidsness 1988:29). The land that joined the Hoopa Valley Indian Reservation and the Klamath River Reserve included the land one mile on each side of the Klamath River from Weitchpec to Tectah Creek. This land came to be known as the "Extension." Thus, the Hoopa Square, the "Extension," and the Klamath River Reserve all became inclusively known as the Hoopa Valley Indian Reservation. The General Allotment (or Dawes) Act was applied to the Hoopa Valley Indian Reservation "Extension" and allowed for the U.S. Government to surplus land, left after tribal allotments were granted, to non-Indian settlement. Subsequently, checkerboard ownership and a high percentage of land was lost to non-Indian ownership. On June 25, 1892, President Harrison signed a Congressional Bill to open the reservation to non-Indian settlement, "reserving to the Indians only such land as they require for village purposes" (McBeth 1950:48; Bearss 1982:127). The process of assigning Indian allotments within the reservation took two years and on May 21, 1894, the reservation land along the Klamath River was legally opened for non-Indian homesteading (McBeth 1950:48; Bearss 1982:128). As a result, many Yurok people were further displaced from their traditional villages along the Klamath River. Many Yurok relocated to the Hoopa Valley and elsewhere, and some continue to live there today.

The Yurok villages on the coast were not included in either the Klamath Indian Reserve or the Hoopa Valley Indian Reservation. Instead, along the coast, several rancherias were established. In 1914, the U.S. Congress passed an Act, "For the purchase of lands for the homeless Indians of California..." (38 Stat. 589 Chap. 222 Sec. 3, 1914). The purpose of this Act was to create a landbase for California Indians who were without one. From this

federal act came several federal acts and executive orders, which established a landbase for California Indians on a case-by-case basis.

Three rancherias that are home to Yurok people along the coast were established and recognized as sovereign nations. The Resighini Rancheria was established for both Yurok and Tolowa people and is located on the river in Klamath. The Big Lagoon Rancheria was established by Executive Order of the Secretary of the Interior on July 10, 1918 and is located on the southern shore of Big Lagoon. A final coastal rancheria home is located in Trinidad and is known as the Cher-Ae Heights Indian Community of the Trinidad Rancheria. This 60-acre rancheria was established in 1917 and is home to Yurok, Wiyot, and Tolowa People.

In 1958, through the California Rancheria Act, 44 California tribes were identified for termination, which officially ceased federal recognition of tribal status. However, the 44 California tribes chosen for termination did not include any of the three coastal rancherias home to Yurok people (PL 85-671, as amended by PL 88-419). In 1983, 17 northern California tribes were restored through the settlement of a class action suit, *Hardwick v. United States*. Through other individual cases, all but 12 of the originally terminated groups in California have been restored.

In 1988, when the Yurok Tribe separated from the Hoopa Valley Indian Reservation in government, landbase, and jurisdiction, the Rancherias at Resighini, Trinidad, and Big Lagoon were each given the opportunity to merge with the Yurok Tribe if the members of each rancheria voted to do so within 90 days after the enactment of the Hoopa-Yurok Settlement Act (PL 100-580, 102 Stat. 2924 Sec. 11 (b)). None of the rancherias chose to join the Yurok Tribe, but certain members of the rancherias who were culturally Yurok did enroll in the Yurok Tribe, which automatically dis-enrolled them from their previous rancheria.

APPENDIX C: Summary of Stakeholder Positions from Scoping Meetings

1. Cultural Resources

The cultural resource concerns of the Tsurai Ancestral Society and the Yurok Tribe are summarized below:

- Protection of cemetery and human remains. The current conditions at the site make this difficult to achieve as saturation, erosion, resultant exposure and dense vegetation throughout the site make monitoring and site stewardship difficult.
- Preventing erosion from multiple sources, as this damages the traditional trail, the village site, the cemetery, and exposes cultural resources on the surface of the site, within the streams, and on the beach.
- Public access to the village site needs to be restricted and discouraged to prevent looting and site damage until a further plan is developed.
- Restoring the traditional trail (Axel Lindgren Memorial Trail) is a primary concern, particularly at the top where it has been blocked and diverted due to the fencing on the side of the Civic Club Lighthouse Memorial. Trail maintenance needs to be part of a management strategy.
- Vegetation management decisions within the TSA should be dictated by what is best for stabilizing and protecting the site and the cultural resources within it. The current condition is not acceptable as it hinders access, provides cover for looters, and retains moisture that contributes to the swampy conditions within the site.
- Respect for and restoration of the cemetery is a primary concern. The area has been subject to decades of neglect by landowners. The cemetery should be protected, managed, and/or accessed only by the Tsurai Ancestral Society and the Yurok Tribe.
- Adequate consultation by the City on management decisions and activities that impact the cultural resources within the TSA needs to be achieved. In the past, the City, as outlined in Policy 69 of the City's General Plan/Local Coastal Program, has not always followed the established consultation protocol, which required consultation from designated stakeholders. The failure to comply with the consultation protocol has repeatedly resulted in site damage or conflict over management actions taken by the City.

- The cultural resources contained within the TSA have not been properly managed. This has been a recurring and ongoing problem and concerns over mismanagement have increased since the City acquired the ownership of the TSA and assumed the responsibility for management (State Coastal Conservancy 1980; Tsurai Ancestral Society 1991; Tsurai Ancestral Society 2001; Trinidad City Council 1991; and Trinidad City Council 1995).
- There have been numerous instances where Policy 69 was not properly followed by the City, in spite of repeated and numerous attempts by the Tsurai Ancestral Society. (Tsurai Ancestral Society 2004; Tsurai Ancestral Society 2004a; Tsurai Ancestral Society 2004b; Trinidad City Council 1993; Trinidad City Council 1993a; Yurok Tribe 2004; Trinidad Planning Commission 2001; and Tsurai Ancestral Society 2005). Appropriate management of cultural resources can only occur if the City follows Policy 69 or if a new management strategy is determined. Failure by the City to appropriately manage or adequately consult or notify on proposed projects and management decisions that impact the TSA has resulted in site damage and conflict over management actions taken by the City.
- The Tsurai Ancestral Society and the Yurok Tribe consider the TSA to be part of the larger cultural landscape of Tsurai and the Yurok people. This cultural landscape includes sacred areas, such as Trinidad Head and traditional resource use areas within the coastal zone. Cultural resource management concerns are not limited to the TSA but extend throughout Trinidad.
- The Tsurai Ancestral Society and the Yurok Tribe have ancestral rights and responsibilities regarding the management of the village site and the burials contained within it. It is due to these rights and responsibilities that the two entities advocate for more control over management decisions that impact the cultural resources within the TSA.
- The Tsurai Ancestral Society has reviewed and approved all of the findings and recommendations contained within the geo-technical study conducted by LACO and Associates (2004) because they feel following these recommendations will help protect and preserve the cultural resources within the TSA.
- The Culture Committee of the Yurok Tribe has reviewed the issues and the management concerns expressed by the Tsurai Ancestral Society and voted unanimously to support and approve the recommendations endorsed by the Tsurai Ancestral Society for the purposes of this Management Plan and recommendations for proper cultural resources management of this important ancestral village (Yurok Tribe Culture Committee 2004).

2. Recreational Resources

Several recreational trails provide beach and coastal access from the City of Trinidad (See Figure 3) The Coastal Conservancy holds a conservation easement over the TSA that includes trails for the purpose of providing beach and coastal access for public use. Trinidad has evolved into a tourism-based economy with a strategy to promote and develop hiking trails, enabling access to scenic views and the beach. Yurok ancestral lands contain a complex traditional trail system that retains cultural and spiritual significance to Yurok people. One of the trails within the TSA is a Yurok traditional trail. Adjacent property owners have concerns about trail easements, access, and impacts of pedestrian traffic near their properties. The public has an interest in retaining beach access and hiking trails for recreational purposes. A site visit for the purpose of observing trail conditions and aesthetics was conducted by Yurok staff. A trail matrix, organizing various trail information based upon observations from the site visit can be found in Appendix E. This section summarizes the concerns and issues identified through scoping meetings surrounding specific trails within the TSA.

A. Axel Lindgren Memorial Trail (ALMT)

The ALMT is the traditional Yurok trail to the village of Tsurai. The current trail is of cable-tie interlocking step construction and is very steep and of moderate intensity. The trail extends from the bluff down to the village and continues to the beach. The trail is named in memory of Axel Lindgren II, Tsurai lineal descendant and founder of the Tsurai Ancestral Society. Mr. Lindgren was the primary advocate and caretaker of the village site, the cemetery, and the traditional trail for several decades. The Yurok Tribe, with the advice of Mr. Lindgren, rebuilt the trail in 1997. Various stakeholder groups have different opinions about the issues surrounding this trail which are summarized below:

Tsurai Ancestral Society (TAS):

- The access to the top of the traditional trail has been altered by the installation of a fence by the Civic Club's Memorial Lighthouse. This has forced the top of the trail to be moved from its traditional path. The TAS would like to see the traditional path restored. This would include removing recent additions and vegetation. TAS asserts that the changes made to the trail by the Civic Club additions are increasing erosion to the bluff.
- A handrail extending down the entire trail should be installed to help make the trail safer, but also to discourage users from leaving the trail or entering the village site area.
- The second bench on the trail should be moved further down the trail or removed entirely. This bench is located at the level of the village site and is encouraging users to linger there and may encourage them to leave the trail and enter the village site.

• Continual erosion of the lower portion of the cable-step trail is an on-going problem. The last segment extending down the terrace toe is undermined by erosion, which becomes hazardous. This causes people to detour around the steps and off the trail, which creates further erosion. The lower segment of the trail needs to be continually monitored, maintained, and repaired on a regular basis.

City of Trinidad:

- Recommended using vegetation and handrails to discourage trail users from leaving the trail.
- Recommends maintaining both the traditional trail and a separate public access from the parking lot at the Memorial Lighthouse.
- Agrees that continual erosion of the lower portion of the cable-step trail is an ongoing problem. Permanent solutions have been proposed but need further study.

Adjacent Property Owners:

- Some indicate that the original path of the traditional trail has been well documented.
- The condition of the trail is a concern for safety issues, particularly at the bottom where it washes out every year and creates a hazard.
- Some question whether the cable-step construction was the best type of trail for this terrain. Some noted the cable clamps are rotating which makes the steps uneven.
- Assert that the City is responsible for trail maintenance and liable for hazardous conditions due to lack of maintenance.
- Support the installation of a handrail to make the trail safer for users.
- Recommend the trail be rebuilt in some sections to make it safer for use. Uneven steps, slippery ties, and the steep grade create hazards.
- Suggest considering redirecting the lower portion of the trail to reduce the erosion problem.

Interested Public:

• Feel that the trail needs a handrail.

- Recommend a regular trail maintenance program. The trail is not being maintained and for that reason is hazardous in places.
- Suggest that some of the trail needs to be replaced or rebuilt to make it safer for use.
- Recommend posting signs to warn users of hazards, and to also direct people to stay on it and not detour or leave the trail.

Coastal Conservancy:

- Supports the designation of the ALMT as the primary beach access trail.
- Recommend reviewing the use of this trail to assess future maintenance needs.
- Has taken the position of supporting repairs to this trail on an interim basis while the Management Plan is being prepared. Recognizes the need for a long-term, as opposed to short-term, solution to the erosion problems on the trail.
- Advocate pursuing "natural looking" solutions to resolving trail problems, as opposed to invasive and obtrusive ones. The aesthetic qualities need to be retained. Large concrete constructions may stabilize areas, but may not be consistent with the aesthetic qualities of the area.
- Support the restoration of the traditional trail to its original path, including the area impacted by Civic Club additions to the Memorial Lighthouse. Notes that it holds a public easement over the Civic Club property.

Yurok Tribe:

• Support the recommendations of the Tsurai Ancestral Society. This is a Yurok traditional trail and needs to be considered and managed as such.

B. Bluff Trail (Wagner Street Trail)

The Bluff Trail begins at Wagner Street, heads west on an easement through two privately owned parcels (APN: 042-102-45 and APN: 042-102-30), continues along the bluff edge following the western side of private residences, and merges with Parker Creek Trail before proceeding to Old Home Beach. This trail provides the public a view from the bluff of both the ocean and the beach, a gradual slope, and easy access to the beach. The trail is primarily used as a recreational trail, due to its aesthetic value, as well as an additional access to Parker Creek Trail. While the date of construction is unknown, archival maps indicate this was the Old Wagon Trail that led from the beach to the bluff. This trail has been the site of controversy, due to the location of the trail, as well as the

possible erosional problems the trail is causing on the bluff and the village site. The trail has been the subject of litigation, but the parties have now entered into settlement agreements that establish a boundary between the trail and adjacent private property; acknowledge the City's right to maintain a three-foot-wide trail on its property and to maintain permanent vegetation on the bluff edge; prohibit dumping over the bluff; and reinforce the provisions of an earlier settlement agreement designating the ALMT as the primary trail to the beach. Under provisions of the earlier agreement, the Bluff Trail is to be open during daylight hours only, and no dogs are permitted.

Tsurai Ancestral Society:

- Feel that this trail has the potential to impact the village and cemetery site below. Want the trail to be permanently closed.
- Recommend re-vegetating the trail, particularly on the bluff edge, to help reduce and prevent erosion.
- Recommend the development of alternate trails for beach access, specifically Parker Creek and Groth Lane Trails.
- Understands that the primary management issue is protecting the village site below the trail. Other trails allow for beach access and could be used instead of this trail.

City of Trinidad:

- Agrees with LACO study's determination that foot traffic on the trail has "no practical effect" on bluff stability (2004:18).
- Agrees on the need to identify the sources and impacts of surface runoff.
- Recognizes the need to keep the trail away from the edge of the bluff and to use vegetation to stabilize soils.
- Recognizes the need to educate adjacent landowners not to dispose of landscaping materials over the bluff.

Adjacent Property Owners:

- Note that several geo-technical studies have been conducted, some with conflicting opinions.
- Would like to see mitigation measures developed and implemented to slow erosion.

- Note that the trail has eroded significantly over the past 20 years, particularly at the entrance. It used to be over 20 feet wide, now it is only about 9 feet wide.
- Believe that the Coastal Commission ultimately controls any mitigation and actually has standards for trails (i.e. recommended width).

Interested Public:

- This is a very popular trail because of the public view from the bluff and the easy access it provides to the beach.
- Believe that litigation will determine the future management of this trail.
- Recommend keeping the trail as far away from the bluff edge as possible.

Coastal Conservancy:

- Would like to explore ways to maintain the Wagner Street Trail in order to retain the use of this trail for public views and beach access.
- Assert there needs to be compelling evidence that this trail is causing erosion and potential bluff failure in order to justify closing it.
- Note that the view provided by this trail is a unique characteristic that lends to its popularity and desirability.
- Would consider additional routes to access this trail if it is determined that the current access is vulnerable to erosion.

Yurok Tribe:

Agrees with the position of the Tsurai Ancestral Society. To reiterate: advocates
for interim closures, re-vegetation, and water runoff control, due to the primary
concern of protecting the village below.

C. Parker Creek Trail

The Parker Creek Trail begins in the parking lot of Murphy's Market, continues along Parker Creek, and extends to Old Home Beach. This trail is located on the southern portion of the TSA and provides recreational beach access without impacting the village site. This trail follows a gentle grade and provides an easy access to the beach, through a forested environment along Parker Creek.

Tsurai Ancestral Society:

- Would like to see this trail developed and promoted as a primary beach access trail because it has the least potential impact on the village site.
- Consider this an acceptable alternative to Bluff Trail. Note it does not have impacts on the village site that have been identified with Bluff Trail, namely erosion onto the village due to necessary vegetation removal, abundance of surface groundwater, and to a lesser extent pedestrian use.

City of Trinidad:

- Consider it to be a useful secondary trail for beach access (1994 Stipulation Agreement.)
- Public access/easement issues must be studied and problems resolved to ensure this trails continued accessibility.
- Notes that portions of this trail are outside the TSA.

Adjacent Property Owners:

- Note that in the past, property owners along this trail have discouraged use by the public by removing trail signs and posting "Private Property" signs, even though it is a public trail.
- Recommend that this trail be improved and signs directing traffic be installed.
- Consider this trail to be a good beach access trail. It merges with the lower portion of Bluff Trail, which continues to the beach, so it could be an alternative to the Bluff Trail.
- Consider the forested aspects of the trail to be unique, as several other trails provide views of the ocean.
- Note there are no erosion issues associated with Parker Creek Trail.

Interested Public:

• The trail needs signage. Many visitors do not even know this trail exists, and it is easy to take a wrong turn when coming back up from the beach.

- Also note that in the past, property owners along this trail have removed signs and discouraged use, even though it is a designated public access trail.
- This trail provides a gradual and easy walk down to the beach.
- Note that a portion of this trail crosses onto private property. There needs to be an easement in order to keep it open, if one does not currently exist.

Coastal Conservancy:

- The Conservancy supports exploring the establishment of an easement over a route that would connect the town to Parker Creek Trail and serve as an alternate to the Wagner Street Trail.
- Notes that the forested environment of this trail is a unique quality and enhances user experience of the area.

Yurok Tribe:

- Agrees with the position of the Tsurai Ancestral Society. To reiterate: this trail impacts the village site the least.
- Suggest rerouting the Parker Creek Trail entrance away from residential areas by placing the trail wholly within parcel APN 042-111-03, the most northern and eastern parcel within the TSA.

D. Site Access Trails (trails that lead into the Tsurai Village site)

There are three site access trails that lead into the Tsurai village site. Of these, Doctor's Trail (a.k.a. Iverson Trail) enters the village site on the south off of Parker Creek Trail. This trail goes through the Sebring property to the Pepperwood tree within the village. An easement was never officially granted for this trail. Rather, a verbal agreement was made between Dr. Iverson (the previous landowner) and Axel Lindgren II that provided this village access. Both gentlemen have since passed away and the TAS would like to obtain written permission to continue using this access to the village, but do not want it to be used by the public. The TAS would like to seek a formal agreement with the current property owner of APN: 042-131-07, the Sebrings. The second trail is the Pepperwood Creek Beach Trail, which goes from the beach up into village site from the south and along the west side of the mouth of Parker Creek. A third trail accesses the village from the ALMT.

Tsurai Ancestral Society:

• Identify Doctor's Trail as their preferred trail to access the village and cemetery.

- Do not want Doctor's Trail to be promoted as a public trail, but for TAS and Yurok use as needed to care for the site and cemetery.
- Prefer that all other trails that access the village site be closed.
- Would like to develop a formal agreement with the current property owner for site access via this trail. Since it passes through private property, it requires permission. A verbal agreement had been in place with the previous owner (Dr. Iverson), but never was formalized.
- Groth Lane is the only vehicle access near the area. This is sometimes needed for accessing the site for TAS activities (reburials from repatriations, law enforcement purposes, etc.). Groth Lane is the vehicle access to the Sebring Property.
- Would like to use vegetation and hand railing to discourage the use of other foot trails into the village site.

City of Trinidad:

- Will take the lead from TAS and the Yurok Tribe on which are the designated site access trails.
- Note that Groth Lane is needed to access the site for law enforcement, water sampling, etc.
- Believe Groth Lane should be considered as another designated beach access route.
- Aware that an easement or formal agreement is needed to use Groth or Doctor's
 Trails to access the site, since they both pass through private property and require
 permission from the current property owner.

Adjacent Property Owners:

• Note that the current owner has installed a locked gate, so not only does it require permission, but also a key to access.

Interested Public:

• Note key and permission to access issue.

Coastal Conservancy:

- No current easements for these site access trails since they do not access the
 beach. (this would be inappropriate as it involves a separate agreement b/n the
 TAS and private property owner). Would support the entities involved (TAS, the
 Yurok Tribe, and private property owners) in entering into use agreements or
 easements.
- Discourages identifying these trails with signs as it may encourage inappropriate public access to the village site.

Yurok Tribe:

• Would like to negotiate access agreement with the current property owners.

3. Natural Resources

A. Vegetation

Tsurai Ancestral Society:

- Assert that vegetation management decisions need to be based upon what is best for or needed to protect the village site. Understands that views are important to property owners on the bluff, but do not think this should be the primary factor in vegetation management decisions within the TSA.
- Would like to see the area restored. Invasive and non-native species removed and native plants encouraged.
- Would like to selectively remove vegetation and replant with grass within the
 village site and cemetery. Suggest that the dense vegetation provides cover for
 looters, in addition, is helping retain moisture and contributing to the swampy
 nature of the site, which is not how it used to be.
- Would like to see traditional use plants re-introduced.
- Residents of Trinidad have been using the bluff and slope to dump lawn clippings from their properties. This should be stopped as it traps moisture on the bluff and leads to the spread of invasive species within the TSA.
- Feel the TSA should be excluded or exempt with conditions from the City's Vegetation Management Ordinance.
- TAS has been asking the City to manage the vegetation on the village and cemetery site since it acquired the land in 1989.

City of Trinidad:

- Is developing a 'Vegetation Protection Overlay Zone'. The TSA is excluded from the proposed zone.
- Contacted the Trinidad Civic Club about landscaping materials and since 2001 the Civic Club agreed to remove clippings from the Memorial Lighthouse grounds.
- Would like to enhance views from the bluff, but not if it compounds erosion problems on the TSA.
- Aware that no previous biological assessments have been conducted within the TSA and acknowledge that such a review would be needed before implementing any vegetation management plan to ensure it complies with CESA and CEQA.
- Believe that the TAS and Yurok Tribe should determine how to manage the
 vegetation on the village and cemetery areas and see the role of the City as one of
 helping implement those decisions.

Adjacent Landowners:

- Vegetation management should be considered as a way to help stabilize the bluff and reduce erosion.
- Many owners are willing to remove invasive species and re-plant with native species.
- Would like a protocol for how to manage vegetation on their properties.
- Feel views are important to their own properties. Many would like views or enhanced views, which would require trimming or topping trees.

Interested Public:

- Some would like to open up views from the bluff so they can see Trinidad Bay, the ocean, and peninsula. Scenic views are important to many.
- Selective thinning, topping, and removal of trees on the bluff and upper slope would enhance views, and could prevent trees from falling over and uprooting soil.
- Different vegetation types require different management techniques and should be addressed in the City's Vegetation Management Ordinance.

- Many support removing non-native, invasive species and re-introducing native species.
- A qualified arborist should be used to make specific recommendations on vegetation management.
- Vegetation is part of the natural resources of the area. Since resource protection is a goal of the Management Plan, it should reflect this.
- Some trees within the TSA are historic and are documented in the historic record, others have cultural and ceremonial value and should be protected.
- The natural and unique vegetation within the TSA should be enhanced and interpreted for visitors to enhance visitor experience of the area.
- Understand that vegetation management decisions within the village and cemetery area should reflect cultural resource protection goals.

Coastal Conservancy:

- Agreed to apply for permits to revegetate bluff adjacent to Wagner St. Trail in a
 manner that does not impede trail use or promote bluff erosion, and to cooperate
 with others in funding and implementing revegetation, as part of settlement
 agreement with TAS in *Frame v. City of Trinidad*, Humboldt County Superior
 Court Case No. DR 98 0359.
- Would like the TMP to identify and clarify what is appropriate vegetation management for the village and cemetery.
- The TMP should identify a process if it recommends any specific vegetation management for the TSA.
- Resource protection goals for the TSA should take precedence over applications of the City's Vegetation Management Ordinance in cases of conflict.
- Natural resource protection is part of the Coastal Conservancy mandate.

Yurok Tribe:

• Agrees with the position of the Tsurai Ancestral Society. To reiterate: remove and replace invasive non-native with native plants, clear out the village center, and replant with grass, and avoid dumping lawn clippings down the bluff.

• Issues of viewshed should be considered from both the beach and the bluff. While it may be desirable to have unfettered views from the bluff looking out over the ocean and down to the beach, people on the beach looking up may not want to see City development.

B. Water Resources

Tsurai Ancestral Society:

- Water quality issues, specifically seepage from failing septic systems within the
 City are a serious concern for TAS. The bluff and site below have been saturated
 with sewage-contaminated water. Fecal choliform has been detected in streams
 that exit the TSA and flow onto the beach. The site is swampy and smells like a
 sewer. TAS has been asking the City to resolve this issue for decades.
- LACO reported (2004:13-14) that none of the three samples tested were over the North Coast Basin Plan water quality limits, although the tests did not establish exactly what the choliform levels were in two of the samples. There are no test results submitted that support the statement "high levels of fecal choliform."
- Other runoff issues from the City need to be corrected as inadequate drainage for runoff is visibly discharging runoff onto the bluff, further compounding the saturation problems and accelerating erosion.
- The streams that flow through the TSA have not been kept clear of debris. This was done traditionally and was also done by Axel Lindgren II when he was caring for the site. Since 1989, the City has not maintained the streams, which have now been obstructed by debris. This is causing them to divert and in some cases, flow directly onto the village site. TAS would like to see these streams maintained to prevent this problem from continuing.
- TAS would like the City to acknowledge that the failed septic problem and the lack of an adequate runoff discharge system have a detrimental effect on the village site.

City of Trinidad:

• The City is aware that there is a water quality problem that has been detected in the streams that pass through the TSA and flow into the Bay. They have received a grant from the State Water Resources Control Board and the Environmental Protection Agency to monitor discharge and determine if there are failing septic systems in the City, to upgrade older systems, and to develop a program of regular maintenance to ensure good water quality. This study is currently in progress.

- Believes that they data show significant improvement in the quality of water runoff in recent decades.
- City has been selected as a pilot project in the Critical Coastal Area and Areas of Special Biological Significance programs.
- Specifically included the TSA in the Onsite Wastewater Treatment Systems monitoring plan.

Adjacent Property Owners:

- Express concerns about water quality problems from failing septic systems.
- Suggest designing and engineering solutions be explored to help mitigate and resolve the problem of failing septic systems.
- Recommend promoting low-flow systems within the City to reduce discharge and gray water.

Interested Public:

- Some are aware that the problem of failing septic systems was identified several years ago and are concerned that it has not been resolved.
- Some point out that there has been very limited testing over time, but what has been done suggests the septic problem is not as bad as it was 20 years ago.
- Contamination of water in streams, flowing onto beaches, and into the protected Bay is a public health issue that many are concerned about and want to see resolved.

Coastal Conservancy:

- The Coastal Conservancy is very concerned about bluff saturation caused by runoff and potentially faulty septic systems within the City.
- Contamination of the streams that flow through the TSA and into the Bay are a grave concern for the Coastal Conservancy because it is impacting a valuable coastal resource.

Yurok Tribe:

• The City's fecal discharge into the Yurok village site is abhorrent.

4. Interpretation and Restoration

A. Signage

Tsurai Ancestral Society:

- Would like to see "Indian Beach" signage replaced with "Old Home Beach".
- Would like to see a commemorative plaque installed on the Axel Lindgren Memorial Trail.
- Supports installing interpretive signage to educate the public on Tsurai Village and Yurok culture.
- Interpretive information on Tsurai and Yurok culture should be prepared and approved by the Tsurai Ancestral Society and the Yurok Tribe.

City of Trinidad:

- Would defer to the Tsurai Ancestral Society and the Yurok Tribe on interpretive information to be included in signage.
- Would like signs to both interpret the area and identify trails within the area, including TSA.

Adjacent Property Owners:

• Believe the use of both directional and interpretive signs is a good idea.

Interested Public:

- Recommend creating interpretive signs not just for the village, but also for the coastal and natural resources unique to the area and within the TSA.
- Trails should be well marked to direct traffic to and from the beach.

Coastal Conservancy:

- Supports the use of signs to direct people to acceptable areas and to the beach.
- Notes that settlement agreements (1994 and 2005) require signage designating ALMT as primary beach access and other trails as secondary access

• Would like to see more signage for the Parker Creek Trail in both directions.

Yurok Tribe:

• Finds Native American interpretation to be one way to educate people and counter racism.

C. Village Site Restoration

Tsurai Ancestral Society:

- Supports the idea of site restoration, but notes that the primary concern is site stabilization and protection.
- Would consider restoration of the village similar to what has been done at Sumeg, in Patrick's Point State Park.
- Would like to see the Brush Dance restored someday.

City of Trinidad:

• Supports the idea of site restoration and feels it is ultimately up to the Tsurai Ancestral Society and the Yurok Tribe to determine what is appropriate.

Adjacent Property Owners:

• No specific comments provided on this issue.

Interested Public:

- Support the restoration of the village site if decided by the Tsurai Ancestral Society and the Yurok Tribe.
- Many would like to learn more about Tsurai and Yurok culture.
- Many would like to see the Brush Dance restored to the village.
- Many see the educational potential of restoring the village.

Coastal Conservancy:

 Supports environmental restoration of the entire TSA including the removal of invasive species, re-introduction of native and culturally significant species, as well as cultural resources.

• Recognizes that some restoration efforts would be for Tsurai Ancestral Society and Yurok Tribe cultural needs, not necessarily for the public.

Yurok Tribe:

• Agrees with the Tsurai Ancestral Society.

D. Visitation/Access

Tsurai Ancestral Society:

- Want the burial grounds to be respected as a cemetery as opposed to promoting recreational use in this area. Do not feel that access or visitation by the public should be encouraged.
- Would like to have controlled and limited access to the village site if restored. Would consider interpretive tours.
- Fencing the cemetery and sensitive areas of the site would discourage public access.
- Would like the City to notify TAS in advance if access to the site is needed.
- Prefer that site access trails be re-vegetated and the handrail installed on the Axel Lindgren Memorial Trail to discourage site access by the public.

City of Trinidad:

- Would like a defined protocol on who to contact when site access is needed.
- Note that site access for vehicles may be needed for law enforcement purposes.

None of the other stakeholder groups provided comment on site access issues.

5. Other Management Issues and Concerns

Tsurai Ancestral Society:

- Asserts that the City has not followed the consultation protocol under Policy 69 of the City's Local Coastal Plan in the past. Would like to see Policy 69 updated to include consultation with the Yurok Tribe.
- Would like the findings of a recent geo-technical study (from LACO) for the TSA be included in the Management Plan and recommendations.

• Does not feel the City has demonstrated good stewardship of the village since 1989 and would like to see the TSA transferred to the Yurok Tribe.

City of Trinidad:

- Want a cooperative shared relationship between all parties in implementing the recommendations of the management plan.
- Propose ownership of the village site by the TAS or Yurok Tribe.
- Confident that the City can continue to maintain public access while the Yurok Tribe and TAS manage cultural resources.

Adjacent Property Owners:

• No additional concerns identified.

Interested Public:

- Consider the TSA as culturally and environmentally significant resource and an important part of local history.
- Recommend establishing a cultural week in order to educate local residents and the public about Tsurai and Yurok history and culture.
- Some see the future management of the TSA as a potential for collaboration, education, and reconciliation for the entire community.
- A member of the City Council proposed a tri-government management team (State, Tribal and City) to regularly meet on management of the TSA.
- Public health and safety are primary concerns for the TSA, whether it is trail conditions, solid waste, or water quality.
- Restoring the cultural and natural resources within the TSA benefits everyone.

Coastal Conservancy:

- Feels that the concern about costs is valid, but should not limit what is considered for the Management Plan or future management of the TSA.
- Is committed to the protection of recreational, cultural, and natural resources within the TSA and providing safe public access to the beach and coastal areas.

- All environmental issues should be examined and resolved where feasible.
- Property should be managed to protect recreational, cultural and natural resources and to resolve conflicts between these objectives regardless of ownership.
 Believes that discussions about future ownership are valid nonetheless and should be considered in the Management Plan.

Yurok Tribe:

• Agrees with the Tsurai Ancestral Society. Advocates for the transfer of the TSA to the Yurok Tribe for proper management and restoration.

Appendix D: Scoping Meetings Matrix

Abbreviation Index:

TG= Tom Gates, Yurok Tribe

AL= Adjacent Landowners

ALMT = Axel Lindgren Memorial Trail

CT= City of Trinidad

TAS= Tsurai Ancestral Society

PM= Public Meeting

KS= Kate Sloan, Yurok Tribe Environmental Program

TMP = Tsurai Management Plan

Tagasa	Tsurai Ancestral	City of Trinidad	Adjacent	Interested	California	Yurok Tribe
Issue	Society		Property	Public	Coastal	
			Owners		Conservancy	
	-Consider the problem to	-Would like to see a	-Recognize some	- See rodents (i.e.:	- Bluff	- Causes of
Erosion	be due primarily to	geo-technical study	erosion is a natural	mountain beavers)	saturation is a	erosion need to
	runoff causing slope	of the entire TSA to	process, while some	as a contributing	concern for the	be identified
	instability and erosion.	identify the causes of	is being caused by	factor to erosion	CC not just due	and where
		erosion and bluff	human activity or	problems.	to erosion, but	found to be due
	- Need to correct runoff	failure.	development.		also due to	to human
	problem from paved			- Armoring the	water quality	activity, need to
	areas onto site- redirect	-Problem of	- Consider planting	beach/toe of the	issues and the	be corrected in
	runoff.	conflicting geo-	vegetation on the	slope to stop	protection of	order to protect
		technical studies and	bluff and slope that	erosion is not only	coastal	the village site.
	-Concerned about slope	findings.	has a deep root	unsightly, but also	resources.	
	failure being accelerated		system to help	can accelerate		
	by lighthouse	-Recommend an	stabilize the soils	erosion in adjacent		
	development, evidence of	adaptive management	and reduce erosion.	areas (i.e.: Santa		
	slope failure is visible.	strategy (i.e.: try and		Cruz/Monterey		

	see what works and	area).
- Recommend channel	ling what doe not).	
runoff into creeks . Th	is	- If the failing
could be against the la	w -City is concerned	septic systems and
due to septic	about the cost of	runoff from the city
contamination	stabilizing the site.	are saturating the
	Who pays?	slope and causing
-May want to filter run	noff	erosion and
or put in a settling por		possible bluff
	mountain beavers)	failure, it needs to
-Mountain beavers are	J	be corrected.
accelerating erosion	contributing factor to	
problems due to	erosion and need to	- Mitigation efforts,
burrowing. They need	to be removed.	such as rock
be removed or		gabiens, armoring,
exterminated.	- City is currently	retaining walls
	conducting a septic	require permitting
	system and water	and approval from
	quality monitoring	the Coastal
	program to identify	Commission.
	the sources of bluff	
	saturation and stream	
	contamination.	

	•	1	1	1	1
Bluff	- Believe that failure is	- Past geo-technical	- Some consider	- Find ways to stop	
	due to septic seepage and	studies have	vegetation as a	seepage from septic	
	runoff something needs	competing and	problem.	systems that is	
	to be done to stabilize.	sometimes	Specifically, alders	saturating the bluff.	
		conflicting	on the upper slopes.		
	-Recommend taking any	conclusions about the	Vegetation could be	- Need to look into	
	action required to	causes of bluff	used strategically to	sewer system for	
	stabilize bluff to protect	failure.	stabilize the slope	the City.	
	site.		and bluff.		
		-City offered access		-Consider actions	
	- Options to stabilize	to City records on site	- Believe failing	like promoting and	
	should be explored.	history and past geo-	septic systems are a	requiring low flow	
		technical studies for	significant source	water appliances.	
		writing the TMP	of bluff erosion.		
		(*note this offer was		- More information	
		not honored and was	-Bluff erosion and	needed on causes	
		later rescinded by the	slope failure have	and solutions.	
		City)	been ongoing, but		
			in past 15-20 years,		
			it has caused		
			portions of the		
			Wagner Street trail		
			to shrink from 20		
			feet wide to about 8		
			feet wide.		
			-Mitigating bluff		
			failure will slow the		
			natural process of		
			erosion and will		
			protect the Village		

	site and properties situated on the bluff. Taking no		
	action is not going to stop erosion,		
	bluff failure or protect the site or		
	private residences.		

Stream	- Clean out debris in	- Will be doing water		
	streams in order to	quality monitoring on		
	channel runoff and	streams with		
	prevent runoff and	wastewater treatment		
	seepage into the site and	grant.		
	cemetery.			
	-	- A 1990 study by		
	- Axel Sr. used to clean	Busch & Co. was		
	out debris to keep	conducted but		
	streams open, but this is	recommendations		
	really the responsibility	were never pursued.		
	of the landowner (i.e.:	Should consider		
	City)	revisiting this study		
		and its		
	- Concerned about	recommendations		
	erosion from streams but			
	believe the real stream			
	issue is water quality			
	related (i.e.: septic			
	seepage)			
	- Odor and sampling			
	indicate that raw sewage			
	is flowing through			
	streams, this is adding to			
	the runoff and erosion			
	problem but also is a			
	public health issue. TAS			
	uses the stream water for			
	ceremonial purposes.			

Resources on the beach a recurring problem. These should be left alone or TAS should be notified and they will rebury on site. - See this area as a function of the Tribe or TAS who needs to take a position as along the beach. Would like to see this problem resolved. - Very concerned with looting which is an on- between CR that have washed onto beach and those exposed in the village site is a significant cultural resource for the entire community. Village site is a significant cultural resource for the entire community. Village site is a significant cultural resource for the entire community. - Yurok people have the priority rights in deciding what is best for the site. - Could pass a City Ordinance to allow for the prosecution if someone is found in the site with signs to deter people/inform people they shouldn't be in there. - Could pass a City Ordinance to allow for the prosecution if someone is found in the site without authorization. - Provide examples of what actions efforts and recommendations to cultural resource for the entire community. - See this area as a function of the Tribe or TAS who needs to take a position as "experts" on ways to handle CRs and make recommendations to the City on what to do. - Increased tourism will likely bring increased impacts to cultural - Others see the - Others see the	Ocean	- Ocean erosion is clearly a problem due to natural causes. -Would like to explore possible stabilization methods (i.e.: rock gabiens, retaining wall, rip-rap, revegetation) but only if it would not accelerate natural erosion.	- City would be satisfied with a 20-year solution, such as riprap or gabiens instead of trying to have a final solution that costs millions of dollars because; who will pay for it?	- Consider mitigating erosion at the toe of the sloped similar to Luffenholtz Beach. (i.e.: constructing a log and cable or gabien system to stabilize the toe of the slope.)	- Recommend that rock gabiens be used to slow erosion at toe of slope (i.e.: those below the former Iverson property)		
problem. These should be left alone or TAS should be notified and they will rebury on site. See this area as a function of the Tribe problem is exposing atlong the beach. Would like to see this problem resolved. Very concerned with looting which is an on- Problem. These should be left alone or TAS should be notified and those exposed in the village. Saginificant cultural resource for the entire community. Signis to deter people/inform what constitutes the resource for the entire community. Signis to deter people/inform what constitutes the remains to be based on the village. Significant cultural resource for the entire community. Signis to deter people/inform what coultural resource for the entire community. Signis to deter people/inform what coultural resource for the entire community. Signis to deter people/inform what constitutes the Yurok Tribe. What constitutes the Yurok Tribe. What constitutes the Yurok People have the priority rights in deciding what is best for the site. Significant cultural resource for the entire community. Significant c	Cultural	- Exposed artifacts found	- Differentiates	- The Tsurai	-Could put a railing	- Need a	- CRs are the
going problem. Law enforcement and education are needed. A implementing resources and should be strong to the considered in future it via signs. resources and should be it is to not identify cutting across resources considered in future it via signs.	Resources	problem. These should be left alone or TAS should be notified and they will rebury on site. - Mountain beaver problem is exposing artifacts on the site and along the beach. Would like to see this problem resolved. - Very concerned with looting which is an ongoing problem. Law enforcement and	washed onto beach and those exposed in the village. - See this area as a function of the Tribe or TAS who needs to take a position as "experts" on ways to handle CRs and make recommendations to the City on what to do. - Sees the City's function as	significant cultural resource for the entire community. - Yurok people have the priority rights in deciding what is best for the site. - Increased tourism will likely bring increased impacts to cultural resources and should be	signs to deter people/inform people they shouldn't be in there. - Could pass a City Ordinance to allow for the prosecution if someone is found in the site without authorization. - Others see the best way to protect it is to not identify	statement on what constitutes "harm" to CR in plan as it remains undefined in CC easement language. -Provide explicit examples of what actions should be avoided (e.g. cutting across	for the Yurok Tribe. Management decisions need to be based on how best to protect the village and cemetery. -Supports the TAS in it's efforts and recommendatio ns re: cultural resources

site monitoring program	whatever the Tribe	management plans.		unmarked trails,	
would be a good idea.	decides, including		- Possibly look to	excavation, and	
	surveillance,		state or national	unapproved	
- Overgrowth of	enforcement,		park solutions to	planting) and	
vegetation has provided	program to trap and		managing	what actions	
cover that obscures	remove rodents, and		Indigenous cultural	should not	
looting activities within	monitoring as		sites as models.	impact site (e.g.	
the site.	examples.			hiking on trails	
			- Have one cultural	ONLY and	
	- City does not,		week a year for	guide-led	
	however, have the		local Indigenous	interpretive	
	monetary resources		Peoples to	walks)	
	or people to take on		educate/exchange		
	full responsibly of		ideas with		
	implementing		community.		
	whatever plan the				
	Tribe decides, City		- TAS should		
	wants it to be		decide how much		
	cooperative.		access they want		
			the public to have		
			to the village site		
			and then act		
			accordingly.		
			- Policy 69 suggests		
			the cemetery be		
			fenced.		
			D .		
			- Past concerns over		
			looting and		
			protecting the site		

have led to allowing the site become overgrow to discourage people from goin in there. - A comprehensic cultural resource survey of the ent TSA would help locate and identic CRs for future management. - Some hope to serestoration and restoration and reintroduction of the Brush Dance. - The cultural resources could be restored not as tourist attraction but as part of cultural preservation for Yurok and Tsura people.	g /e s re s re de de de de de de de de de
---	---

Exposed	-A continual problem.	-Two types: 1) Those		
Cultural	TAS is very concerned	due to erosion and		
Resources/	about protecting burials	visible on beach; 2)		
Human	and exposed remains.	Those on the site and		
Remains	-	in the ground.		
	-Erosion is contributing	\mathcal{E}		
	to the outwash of remains	-Sees it as a		
	onto the beach below.	monitoring issue for		
		the Tribe and TAS.		
	- It is important that the			
	City follow the protocol	- Would like to see		
	and inform TAS upon	the site protected and		
	discovery so they can be	for people to stay out		
	properly reburied on site	of it.		
	as soon as possible.			
From Erosion	- Some erosion is natural,	- Geotech study may		
	but others, like that	help provide insight		
	caused by runoff and	into causes and		
	rodents should be	solutions.		
	resolved to help stabilize			
	the site and prevent CRs	- Sees the roles of		
	from eroding onto the	TAS and Yurok Tribe		
	beach.	as primary in		
		deciding what needs		
	- If artifacts are found	to be done.		
	then they should be			
	reburied by TAS or the			
	Yurok Tribe as soon as			
	possible.			

From Looting	-Very concerned about	- Deter site access	- Others agree with	- Looting needs
	this ongoing problem.	and foot traffic by use	the wire mesh to	to be stopped.
		of trail and railings.	prevent looting, but	
	- Consider site and veg		also prevent soil	
	management to open up	- Consider identifying	slipping.	
	the area so it is more	site boundaries in		
	visible and easily	order to prevent		
	monitored. Dense	access and keep		
	vegetation serves to	people out.		
	obscure the activities of			
	looters.	- A monitoring		
		program and support		
	-Monitoring on a regular	of Law Enforcement		
	basis is recommended to	in order to protect the		
	track and prevent looting.	site and deter looting.		
	- Educate local law	- Recommend a		
	enforcement on the	monitoring program-		
	looting issue and the fact	could use HSU or		
	that it is a criminal act.	Tribe or interested		
		citizens.		
	- Interested in a			
	stewardship or			
	monitoring program to			
	monitor and prevent			
	looting.			
	W71.1 19 /			
	- Would like to use wire			
	mesh to cap the site, over			
	lay it with imported fill			
	dirt, reseed, and that			

	would help prevent			
	looting and open up the			
	site to be more like a			
	cemetery.			
From Rodents	-Recommend that rodents	- Rodents are a	- Definitely a	- Remove or
	be removed from the site	problem.	contributing	exterminate.
	area because they erode		problem re: erosion.	
	the site, leading to the	- Possibly a rodent-		
	exposure of artifacts,	proof fence around	- No one had a	
	which encourages looting	the area with the	problem with	
	and collecting.	highest concentration	removing rodents.	
		of cultural materials	Are not an	
			Endangered	
		- City could help	Species.	
		implement the		
		removal of the	- Recommend	
		rodents.	relocation (trap and	
			remove) over	
			extermination.	

Reburial	-Would like to continue to handle reburials on site per traditional practice by TAS.	 City would like a clear protocol on how to handle discovery of human remains. Put the proper protocol in the police department manual. Perhaps even public education on protocol (i.e. brochure). 				
Vegetation	- Recommend that all veg	- Developed a Draft	-Vegetation	- Some would like	- Would like	- Agrees with
Management	management be determined by what is best or what is needed to stabilize and protect the site. -Don't want trees removed if geo-tech studies says it will harm site. - Viewshed issues are not a priority of TAS, protecting the site is. - Would like to see invasive species removed and culturally significant	Vegetation Ordinance that was tabled until City Council devised a plan for nuisance abatement and enforcement since vegetation is seen by some as a nuisance and enforcement issue. -Stated the ordinance does not include the study area and primarily deals with viewshed issues (Note: Copy of draft veg ordinance does	management should be considered as a way to stabilize the bluff and slope and protect the site. - Willing to remove non-native species from property and replant with native species. -Residents would like a protocol or process on how to treat vegetation on their properties.	trees to be topped or removed to enhance view of the ocean, the bay, and the sea stacks. View of the actual beach is not a goal and likely not practical. - Thinning trees may make them less prone to blow down. -Consider removing non-native species.	TMP to address what is or is not appropriate veg. Management. - Would like the TMP to have clear plan for any recommended types of veg management. -Address City Veg Ordinance and site management	TAS that vegetation management decisions need to be based on what is best for protecting and stabilizing the site.

plants, native species	include the study	- Consider	differences or
reintroduced throughout	area)	removing taller	potential
study area.		trees that are prone	conflicts.
	- City would like a	to blow down	
	veg plan that	(pines and alders)	
	enhances views but		
	does not compound	- Recommend	
	erosion or site	different treatments	
	problems.	for different types	
		of vegetation (trees,	
	- City to provide a	hedges, etc) for	
	copy of the draft of	City Veg ordinance.	
	veg. Ordinance.		
		- Use an arborist to	
	-Biological/	determine which	
	environmental	trees to trim versus	
	assessment needs to	remove.	
	be done, to provide a		
	botanical and animal	- If resource	
	species inventory.	protection is part of	
		the goal of the CC	
	- City's interest in	and TMP, then veg	
	veg maintenance is	management plans	
	onsite protection of	should reflect this.	
	CR, maintain public		
	access, and remove	- Consider how	
	invasive species.	leaving trees on the	
		TSA (or removing	
	- City has drafted a	them) will impact	
	vegetation ordinance	resource protection	
	but has nuisance	goals.	

abatement issues as		
vegetation would be		
treated as an		
abatement issue.		

On site	- Would like all	- See veg	- Vegetation	- Would like trees	- Should be
	vegetation management	management as	management is a	on site to be topped	determined by
	to be dictated by what is	depending on the	viewshed issue for	or trimmed to	what is best for
	best for protecting (and	vision for the site	adjacent property	provide views.	protecting and
	stabilizing) the site and		owners as views are		preserving the
	allowing access to the	- See the vision for	obstructed by	Historical records	cultural
	cemetery by TAS for	the site as a decision	vegetation on the	and photographs	resources within
	caretaking.	made by the TAS and	TSA.	show the TSA used	the TSA.
		the Yurok Tribe. City		to be open with a	I
	- The TAS has been	would help	- Alders and other	few large trees.	I
	asking the City to help	implement.	vegetation on the	Traditional use of	I
	clear out the overgrowth		site, particularly on	fire (prescribed	I
	in the cemetery area	- The TSA is	the slope above the	burning) probably	I
	since 1989.	included within the	village site are	helped maintain	I
		City's draft	creating an	this. Invasive	I
	- TAS would like some	vegetation	overburden,	species now have	I
	vegetation cleared to	management plan.	retaining moisture	changed the	I
	enable access, dry out the		and increasing	landscape. Consider	I
	site, and provide the		potential bluff	removing non-	I
	ability to monitor the site		failure risks.	native invasive	I
	to protect it from looting.		Consider removing	species.	I
			the alders and other		I
			vegetation that is	- Historical records	I
			impacting the bluff	also indicate that	I
			and site below.	there are culturally	I
				significant trees on	I
				site that warrant	I
				consideration (bay	I
				trees, pepperwood	I
				trees, California	I
				Laurel, Oregon	I

				Myrtle). - Understand that	
				the Pepperwood	
				trees are highly significant	
				historically and	
				culturally for Yurok culture.	
				- Restoring the natural vegetation	
				and promoting the	
				cultural plants and trees would	
				enhance the	
				interpretive value for the public.	
Viewshed	-TAS priority is to	- Draft veg. ordinance	- Views are	- City's General	
Issues	protect the site, any veg	talks about protecting viewshed, but the	important to	Plan provides for	
	management should be dictated by what best	City feels there is a	adjacent landowners.	view protection from private	
	protects the site. This is	balance between	.	residences.	
	the only priority- not the viewshed issues of	viewshed and what's best for the site in	- Request a process or protocol for		
	adjacent landowners.	terms of halting	requesting		
		erosion and looting (e.g. limbing rather	trimming of vegetation on-site		
		than removing trees)	to enhance views.		
		- As a stakeholder,	- Viewshed		

the City doesn't have	protection, in the		
any view issues but	form of removing		
realizes that views	trees ready to fall		
are important to	already may be in		
adjacent landowners.	line with protecting		
adjacent fandowners.	the environment,		
-City has included	the slope, and		
viewshed issues in	_		
	village, which is		
draft vegetation	below.		
management plan.			
T 7			
-Vegetation			
management plan is			
on hold until the			
TMP is completed.			
- Planning			
Commission holds			
views from private			
residences as			
important. City's			
General Plan and the			
TMP should reflect			
that.			

	- See Parker Creek Trail	- Trails should be	- Trails are an	-Access to	- Agree with
Trails	as least invasive to	safe and accessible.	important part of	coastal areas is	TAS
	village site would like to	If trails become	the Trinidad	a CC mandate.	recommendatio
	see foot traffic utilize this	hazardous, they	community and	Access includes	ns and
	beach access over others	should be posted	economy. They	access to views,	concerns.
	that do impact the site.	and/or closed.	encourage tourism.	not just the	
				beach.	
	- Would like to see Groth	- Trail maintenance	- Adequate trail		
	Lane and Parker Creek	is the City's	maintenance is	-Willing to	
	trails developed and	responsibility.	vital. Safe and user	explore	
	promoted for public use		friendly trails will	alternatives for	
	over other trails within	- Consider	attract users.	beach access.	
	the TSA.	implementing a			
		seasonal trail	- A trail	- CC would like	
		rotation so that	maintenance	to see as many	
		unstable trails can	program needs to	access	
		be closed during	be established.	alternatives as	
		wet season.		possible to	
			- Vegetation	preserve the	
		-Multiple trails	management on	maximum	
		provide several	trails is an issue.	coastal access	
		beach access	.	consistent with	
		alternatives. Beach	- Proper trail	other	
		access is not	maintenance will	considerations	
		dependent on a	encourage people to	of the	
		single trail.	stay on them and	easements	
			not leave the	(natural and	
			designated trails.	cultural	
			People detour	resources	
			around the trails in	included)	
			areas where they		

				are hazardous (i.e.: the lower portion of the Traditional Trail). - Use trails to direct visitors to where you want them to go and away from areas you want them to stay out of.	- Would like to see both Parker Creek and Groth Trails used because of scenic value and ease of beach access.	
Axel Lindgren Memorial Trail	- Would like to see the traditional trail restored at the top. Remove recent Civic Club installation of railing and bushes, concrete where it changed the traditional path -The trail is steep and should have a handrail along entire length. Prefer it be placed on one side, to deter people from leaving the trail and going into the site and cemetery area.	- Thought the issue of entrance was solved between TAS and the Civic Club, direct access fine as long as westerly entrance by parking lot remained, but not sure if formal agreement was made. - Could structure the veg. around the trail to prevent people from going into the site, perhaps installing a handrail.	- The original path at the top of the traditional trail is well documented. - The trail is hazardous as it is. The ties are moving (rotating) and the bottom of the trail is eroding and hazardous. -The uneven steps are dangerous with no hand railing in place. Consider	- The trail is very steep and needs a handrail. - Grass grows rapidly on steps of the trail and must be maintained, but pulling it contributes to erosion problems -Steps/railroad ties may need to be reset in order to make it safer. - Someone needs to	- Supports this trail as being designated as the primary trail to the beach and the review of the use of the traditional trail (top to bottom). - The CC has taken the position of making repairs on an interim basis while the TMP is being developed.	- This is a traditional Yurok trail and as such, the TAS and Yurok tribe want to see it protected and restored.

			rebuilding with	take care of it. If		
	- Hand rail idea:		consistent platforms	the City can't do it,	- Would like to	
	Pressure-treated cedar		and rises, crib and	someone else needs	see solution at	
	core with three-span type		rock steps using	to.	the bottom be	
	cable with holes drilled		only cable and ties		something	
	in the posts and then		at the lower	- Consider posting	"natural" and	
	split- redwood top rail.		portion.	signs to warn if	not obtrusive	
				hazardous, or to	looking	
	-Move the second bench		- Consider	direct people off	(i.e.: Malibu	
	further down the trail so		redirecting the	certain areas.	Beach	
	that people are not		lower portion of the		concrete).	
	encouraged to stop at the		trail so that it does	-		
	same location as the site		not continually		- The CC holds	
	and cemetery.		erode.		the trail	
					easement	
	-Erosion at the bottom of				through the	
	the trail is a recurring				Civic Club	
	problem. Need to explore				property	
	options for stabilizing the				(Memorial	
	trail so that it is not				Lighthouse)	
	dangerous. People leave					
	the trail and are					
	impacting the area on					
	either side because it is					
W/ C44	unsafe Concerned this trail	No someonesse mond	Many nest see	Titionting insures	Interceted in	A ~~~ ~~ ~~ ···············
Wagner Street	causes erosion and	- No consensus, need	- Many past geo- technical studies	- Litigation issues	- Interested in	- Agrees with
Trail (a.k.a.		a geological study to inform decision.	have been	will ultimately	exploring the	TAS on closing
Old Wagon Road Trail or	should probably be closed until it is	inform decision.	conducted.	determine what	maintenance of this trail for	this trail.
Bluff Trail)	determined that it is not	- May have to wait	Consider mitigation	happens to this trail.		
Diuli I fall)	accelerating bluff failure	until litigation directs	to slow the erosion	uan.	access.	
	according bluff fallule	unin migation unects	to stow the croston			

or threatening the site. If	decision on this trail.	and bluff failure.	- Efforts should be	- There would	
it is, it should be			made to keep the	have to be	
permanently closed.	- Trail is important	-Has eroded	trail as far away	compelling	
	because of gradual	significantly over	from the bluff edge	evidence that	
- Would like to see it re-	slope, good for	past 20 years. Now	as possible.	foot traffic is	
vegetated because	elderly. It is a public	only about 8 feet		impacting	
perceive it as a major	access issue.	wide at the access,		erosion on the	
erosion problem		which is directly		bluff to close	
-		above the site.		this access.	
-Consider promoting					
alternate trails to access		- Conditions of		- Supports the	
the beach over this trail.		Local Coastal		designation of	
		Program have made		this trail as a	
- TAS believes the		implementing		formal trail	
primary issue with this		mitigation measures		onto/around the	
trail is site protection (of		more complicated.		site.	
village below) and not					
public access as there are		- Many people			
more than one trail to		prefer this trail			
access the beach.		because of the view			
		and the gradual			
		slope for accessing			
		the beach.			
		- Consider using			
		native vegetation to			
		stabilize the slope			
		below the trail.			
		-Coastal access			
		standard zones			

			recommend a			
			specific width of			
			trail, re-vegetating			
			the western side of			
			the trail would			
			make the trail			
			access much			
			narrower than the			
			standard.			
			-The trail is part of			
			an historic access			
			road to the beach			
			and is consistently			
			open, accessible			
			and easy to use.			
Parker Creek	- Is a gradual trail that	-Could be an	- This trail begins	- This trail needs	- Concerned	
Trail	provides beach access.	alternate access to the	behind the Market	signage,	that if this trail	
		beach.	and then merges	particularly at the	is designated as	
	- TAS promotes the use		with the Bluff trail	trail head by the	a formal trail	
	of Parker Creek Trail	- Trail is outside the	and then proceeds	store or near View	that it would	
	because it has the least	study area, but as an	to the beach.	Street. Lack of	encourage	
	impact on the village site.	access alternative it		signage prevents	traffic into the	
		could be important.	- In the past, dogs	people from	internal area of	
			and property	knowing it is even	the site, which	
			owners have	there. Signage is	may be	
			discouraged use of	also needed to	problematic.	
			this trail. Even	direct people		
			though the CC	coming up from the	- Explore trail	
			retained easement	beach.	easement/forma	
			for access, property		1 site access	

			owners have posted "No Trespassing" signs and removed trail marker signs. - No erosion issues with Parker Creek trail or access. - Parker Creek trail does not provide the ocean views that Bluff trail does. It is a forested trail. - Improving Parker Creek trail could enhance it's use as a primary beach	- The trail is an easy way to access the beach, fairly level and gradual slopes make it easy to use, esp. for the elderly.	through the new property owner's (not Halverson's) property. This would be for Tribal use ONLY and probably not signed or named for general public to see.	
			access trail.			
Site Access Trails	-Doctor's trail is the TAS preferred access the village site for TAS purposes. -Would like to close all other site access trails and use the Doctor's Trail to access the site, but discourage public from using it.	- Groth Lane trail needs to be defined as a possible public access; a secondary trail with beach access, but with no site access. Would need an easement, esp. for enforcement purposes.	- Doctor's trail is on private property with a private drive and gate.	- Doctor's trail passes over private property. New owners may not even be aware of easement and access issues. -Doctor's trail is currently blocked by a locked gate.		- A formal agreement for site access should be made between City, Yurok Tribe, TAS, and property owners.

		- Beach access is the		You not only need		
	-Access via Doctor's trail	primary concern for		permission, you		
	in the past was through a	all trails.		need a key.		
	verbal agreement, but the			-		
	property has new owners	- The TAS and Tribe				
	now. Would like formal	should inform City				
	agreement for access.	on what site access				
		trails should be kept				
	- Groth Lane is also a	opened or closed, and				
	trail access that TAS	how.				
	would like to see					
	developed for public use.					
	- Use re-vegetation and					
	handrail to close the two					
	other site access trails					
	and to discourage people					
	from using them to					
	access the site.					
Trail Signage	- Use signs that say,	- City wrote a grant	- Consider posting	- Parker Creek and	- Include	
	"Stay on trail, sensitive	for signs with TAS,	signs to tell people	Groth Lane trails	interpretation to	
	area." rather than state	but were not put in	to stay out of the	need signs to direct	the naming and	
	that it's a burial site.	because of litigation.	site.	traffic.	history of each	
					trail.	
	- Would like signage for	-Suggest MP come		- Interpretive signs		
	the Axel Lindgren	up with best idea for		for both natural and	- Consider	
	Memorial Trail at the	signs and then, with		cultural resources.	installing	
	trailhead.	concurrence from the			interpretative	
		City would			signage about	
		implement the signs			Tsurai at the	
		based on litigation			head of the	

settlen	ment.	Axel Lindgren
		Memorial trail.
- Have	e no problem	
with c	hanging	- Would like to
"India	n Beach" sign	see better
to "Ol	d Home	signage on
Beach	" the action just	Parker Creek
needs	to be brought	and Groth Lane
forwar	rd formally.	trails so that
		people knew
		where to go.

	- TAS would be	- Would defer to the	-Would enjoy			- Agree with
Interpretatio	interested in developing	Yurok Tribe and TAS	learning more about			TAS
n	interpretation of the		the history of			
	village and area to tell		Tsurai. See it as an			
	the story of Tsurai		important			
	through signage,		educational			
	brochures, and possibly		component and			
	guided tours.		should be included			
			in the TMP.			
Signage	- Would like to see	- Would defer to the	-Signs would be a	- Could have	- Signs for trails	
	different wording on	Tribe and TAS but	good idea, but need	natural resources	should be used	
	commemorative plaque:	believe interpretive	specifics on where	and vegetation as a	to direct people.	
	"Old Home Beach" to	signs would be good	and what for.	part of the	Agrees that	
	replace "Indian Beach"	tools to inform the		interpretive	Parker Creek	
		public and protect the		signage.	Trail needs to	
	- Interested in	site while promoting			be marked from	
	interpretive signage for	and directing beach		- In the past, signs	both directions.	
	educational purposes, ex:	access.		have been installed		
	Sumeg Village			on Parker Creek		
				trail but property		
				owners did not like		
				them and took them		
				down.		
				G		
				- Suggest that signs		
				not be used to		
				identify site		
				location. If you		
				don't want people		
				to know where it is,		
				don't tell them.		

Print/Web	- Interested in developing informative brochures to tell history of Tsurai and its significance to Yurok people and TAS.	- Police dept. and Chamber of Commerce have websites and access to website development. Info on village and history could be a good project for Museum Society and TAS to do jointly and put on Chamber of Commerce website as a link		- Add interpretation/ history of site on City of Trinidad and/or Humboldt County's websites	
Site Restoration	-Site protection, specifically of the cemetery and eroding cultural deposits is the primary concern. -Village restoration would be considered, possibly a plank house. - TAS would like to see the Brush Dance restored. - One of the reasons TAS is so concerned about water quality is that one	Would defer to Tribe and TAS on what to do re: the long term vision and future management of the site, including restoration.	- Support the idea of restoring the site for cultural uses and for educational purposes.	- Re: environmental restoration CC would like to see removal of invasive plants and replacement with native and/or historical and/or culturally significant plants. - Suggests that restorations plans include	- Support site restoration and reintroduction of Brush Dance in the future.

	of the streams is used for Tsurai ceremonies and right now it can't be used because it is contaminated.			cultural use- only efforts where the TAS and Yurok people could use the area for cultural purposes, not. nec. for the Public	
Visitation	-The cemetery is not a public use area, it should be treated as a cemetery	-City would appreciate a protocol for site visitation, especially for monitoring and water quality sampling purposes. -City would like to know who to contact for site access.			
Cultural Site Management	- TAS and Yurok Tribe have sole authority in determining what is appropriate management of cultural resources within the site.	Would defer to Yurok Tribe and TAS on how to manage cultural resource issues on the site and study area.	-Recognize that Yurok and Tsurai descendents know best how to manage the cultural resources in the site.		- Agrees with TAS.

Vegetation	-Vegetation management should only be dictated on what is best to protect the CRs and stabilize the site. -Dense vegetation over the site is a problem. It makes access and monitoring difficult and provides cover for looters.			- Many would like to enhance or create views from the bluff by thinning, topping, or removing trees.		
Village Site Restoration	- Would like to see the village restored in the future and someday have a Brush Dance there	- Don't have full consensus on if full village restoration would be possible, but don't object to the plausibility.	- Considered to be a good idea- has an educational aspect as well as a tourist attraction. - One outcome of village restoration would be increased visitors and increased impacts, should be considered in any restoration plans.	- Many support the idea and are excited to learn more about Tsurai and Yurok history and living culture. - Member of Trinidad Museum Society would like to see site restored for educational purposes to be used as a lab.	- Would support village restoration as long as it doesn't exclude public access. - This doesn't mean that public should have access to the cultural site, but they would like to see the main objective be the natural and coastal restoration before cultural	

					restoration	
					- Would TAS create provisions for what could occur within restored	
					village?	
Issues,	- Would like to see the	- Wastewater	- Recognize that	- The aesthetic	- Concerned	- The primary
Concerns, and	land transferred to the	treatment grant will	Tsurai/Yurok retain	qualities and scenic	with saturation	goal of the
Visions for the	Yurok Tribe to be co-	monitor water quality within the 12.5-acres	their rights	beauty of the Trinidad area are	from the bluff	Yurok Tribe is
Future	managed with TAS.	and soil, however,	spiritually, culturally, and		side,	the appropriate protection,
	- Believe the City has not	grant in initial stages.	traditionally	important community	particularly with septic is a	restoration, and
	honored its stewardship	grant in initial stages.	traditionarry	resources.	concern because	preservation of
	obligations or followed	- Monitoring will	- Recommend	resources.	of quality of the	the village site
	the consultation protocol	provide data to then	developing a	-Recommend	water draining	and cemetery.
	in Policy 69.	create MP on when to	strategy to lower	developing a	to a coastal	und cometery.
	m roney os.	pump or replace	septic/seepage	cultural week to	resource	- Supports the
	- Runoff, and septic	certain septic systems	impacts on slope	educate the public	10000100	transfer of the
	contamination is a		(e.g. low flow	about the village	- CC willing to	TSA to the
	primary concern for site	- Concerned with	appliances, rain	and Tsurai/Yurok	participate in	Yurok Tribe.
	stability and public safety	historical context	barrel to capture	culture.	seeking	
	reasons. It must be	section. Wants "non-	water for		resources to	- The Yurok
	resolved.	biased" historical	gardening, etc).	- Natural resources	implement the	Tribe Culture
		interpretations		are significant and	TMP	Committee
	- Seepage from the City	supported by research	- Could have "Hot	should also be	recommendatio	voted
	septic systems and runoff	to be used in final	tips for	included in	ns.	unanimously in
	has saturated the bluff	Management Plan.	Homeowners"	interpretation.		support of the
	and created a swamp		brochure at City		- CC would like	TAS goals for

within the site. This is	- City has concerns	Hall that discusses	- Recreational	to see a vision	the future
not how it used to be. It	about the TMP	water saving	resources and uses	come from the	management of
is a direct result of the	becoming a political	techniques.	of trails to access	process and the	the site.
seepage from failed	tool re: ownership.		the beach for	TMP that	
septic systems.			boating, kite flying,	considers all	-The Culture
			fishing, are	parties' interests	Committee
- Water quality issues			important to	fairly and	voted
impact the site and			residents and	produces	unanimously in
everyone who uses the			visitors.	feasible and	favor of three
beach since the				responsible	resolutions
contaminated water flows			- Water quality	recommendatio	regarding the
onto the beach where			issues, particularly	ns for the	TSA:
people recreate. It also			failing septic	protection of	
flows directly into the			systems, were	the site.	1) Support the
bay, which is bad for the			identified over 8	Specifically,	position of the
natural resources.			years ago as critical	protection of	TAS on these
- Damage to the village			problems, yet	access, cultural	issues.
site caused by seepage			nothing was done.	and natural	
and failed septic needs to				resources, for	2) Support the
be seriously addressed			- The City knows	future	transfer of land
and resolved by the City.			there is a water	generations.	to the Yurok
The City has never			quality problem.		Tribe.
accepted responsibility			Hopes to develop a	- CC has funded	
for the impacts of failing			solution. Is	the TMP and	3) Establish a
septic to the site, yet TAS			currently	could possible	formal
has been asking the City			conducting water	be a future	agreement
to take action for years.			quality testing	funding source	between TAS
			(including water	for	and the Yurok
- Bluff failure is a big			within the TSA)	implementing	Tribe for future
concern. Causes need to			and hopes this will	parts of the	management of
be identified and action			help identify causes	TMP. They	the TSA.

to prevent failure should	and solutions.	could also	
be taken.		support via	
	-Consider a tri-	recommendatio	
-TAS has given priority	government	ns funding	
to protecting the	cooperative	proposals to	
cemetery. They would	relationship: Tribe,	other agencies.	
like it to be treated as a	City, and State to		
cemetery not as a	identify and resolve	- The costs of	
recreational area or a	problems.	implementation	
park.		should not limit	
	- Many ideas	what is	
-Would like the geo-	presented will cost	considered	
technical study to be	money to	though they will	
completed by LACO and	implement. Suggest	definitely place	
the findings adopted and	finding funding	limits on what	
incorporated into the	sources to help	can be done.	
TMP	make these things	Ideas should not	
	happen.	be disregarded	
	m · · · · · · · · · · · · · · · · · · ·	outright simply	
	- Tsurai village is a	because of cost.	
	cultural resource		
	that is valued not		
	just by TAS or the		
	Yurok Tribe but by the Trinidad		
	Community as well.		
	- Consider the		
	educational		
	potential of the		
	village site and		
	vinage she and		

, , , T, 11
restoration. It could
be an outdoor
classroom for
teachers and
students to learn
about Tsurai. The
site has been
neglected and this
resource is being
lost. If all join
together, they can
teach, learn, and
protect.
- Some feel that
they are not
supposed to go to
the site.
- TAS would like to
see the land
transferred to the
Yurok Tribe. Feel
the Yurok Tribe are
the best ones to
own and manage
the TSA. Past
experience has
shown that previous
and current
landowners have
200200 110000 20010

not meanably
not properly
managed the site.
The Yurok Tribe
has demonstrated
both ability and
interest in doing
what is best for
Yurok cultural
resources.
- The TMP and the
process could
represent a new era
of cooperation and
collaboration
between Yuroks,
TAS, and the
greater Trinidad
Community.
Community.
- The cultural
heritage of the
region should be
important to all
parties and a
common ground for
the future.
- City has concerns
about the TMP
becoming a

political tool re:
ownership.
- CC does not see
any suggestions as
"off the table"
ownership of the
TSA has been
discussed and is a
legitimate topic of
discussion in the
TMP.
- CC expressed
concerns regarding
public health and
natural resource
impacts as a result
of fecal choliform
contamination of
the streams in the
TSA from failing
septic systems is a
big concern for the
CC. The public
uses this area, kids
play in those
streams, and the
public needs to be
made aware that it
is a problem.

				- Someone commented that they thought fecal choliform contamination issue used to be worse than it is today. - City is conducting a comprehensive study that will include designing a better sewer system. It is funded by the EPA and the State Water Quality Control Board. It is not limited to testing though this is the first phase of data collection. - Other types of contamination, i.e.: solid waste issues also need to be addressed.	
Consultation	-Policy 69 needs	- City is aware of	- Residents would		- Yurok Tribe
Protocol	improvement and	TAS concerns over	like a better		agrees with
	changes.	consultation protocol	understanding of		TAS.

	(Policy 69).	the consultation		
- Problem with current		protocol and the		
consultation protocol	- Would like to have	best way to follow		
(Policy 69) is that the	open and defined	it.		
City does not follow it.	channels of			
	communication			
-Would like formal	between TAS and			
consultation protocol	City for access and			
well defined and	management			
followed by all parties.	purposed.			
	- Would like formal			
	scheduled meetings			
	between all the			
	parties in			
	Management Team to			
	promote			
	communication and			
	conflict resolution on			
	management of the			
	site and study area.			

Appendix E: Tsurai Study Area Trails Matrix

Attributes	Axel Lindgren Memorial Trail	Wagner Street Trail	Parker Creek Trail
Approximate Length in Feet	400 feet	475 feet	1000 feet
Number of steps	180 steps	None	86 steps
Type of Construction	Cable and step carriages with intermittent natural path	Natural path	Natural post and rebar One bench
	Post and rebar steps Two benches		
Signage	Four signs	Two signs	Three signs
Uses	Public recreational access between Memorial Lighthouse and beach. Historic trail Yurok ceremonial and traditional trail	Public recreational trail connecting from the City, along the bluff, and connecting with Parker Creek Trail Historic road	Public recreational access between residential area and the beach
Views	Coastal Ocean	Coastal Ocean	Forested, including Redwood
	Vegetation, both native and non-native		

Maintenance Estimated Cost Range	Weed eating Minor repairs to lower steps needed yearly Monthly monitoring Install handrails Average repairs every 3 years Upper portions relocated to original path to prevent erosion and possible slope failure Upper portions: \$5,000 - \$20,000 handrail: \$10,000 -	Mowing of three-foot wide path Nightly closure Possible re-vegetation Water erosion control to stabilize bluff and prevent bluff failure. Yearly monitoring • interim closure signs/gate and re-vegetation:	Weed eating Minor repairs to steps Yearly monitoring Average repair every three years \$500 - \$3,000
Other considerations	\$20,000 • Lower carriage: \$3,000- \$5,000/year High maintenance and repair costs Current condition is hazardous	• \$5,000/yr Erosion Potential bluff failure Nightly Closure	Lacks easement from adjacent property owner(s)
		Boundary issues	

Appendix E: Copy of the Preliminary National Environmental Policy Act and California Environmental Quality Act Checklists and Summary

Brief Overview of Findings- All supporting documentation for findings is on file with the Coastal Conservancy and the Yurok Tribe Environmental Program.

- **1. AESTETHICS:** There is a possibility that the aesthetics could be impacted, depending on the proposed project.
- **2. AGRICULTURAL RESOURCES:** The site is not located on or directly adjacent to farmland that is categorized as prime, unique or of state or local importance. In addition, none of the recommended projects will convert agricultural land to a non-agricultural use.
- **3. AIR QUALITY:** No recommended project will have the potential to emit significant emissions of air pollution. All State Ambient Air Quality Standards for the location are classified as attainment, except for Particulate PM10, which is nonattainment. However, the North Coast Unified Air Quality Management District is continually taking measures to reduce emissions of PM10 and bring ambient levels of PM10 down to below the state requirement. The Federal Ambient Air quality Standards have all been met in the site location. In addition, no asbestos has been identified at the site.

4. BIOLOGICAL RESOURCES INCLUDING THREATENED AND

ENDANGERED SPECIES: There are no federal or state listed threatened and/or endangered species within the TSA. Moreover, there are no identified wetlands on or adjacent to the project site. However, the TSA lies adjacent to Trinidad Bay, which includes Kelp Beds that were designated as an Area of Biological Significance (ASBS), now re-designated as Critical Coastal Areas (CCAs). In regards to migratory and native fish habitat, the assessment determined by California Department of Fish and Game, California Cooperative Fish and Habitat Data Program (CalFish), finds that Coho, Chinook, and Steelhead fishes are only *historically* or *possibly* located within the streams of the TSA. Moreover, Cutthroat has been determined as *probable* within the TSA. Therefore, the streams within the TSA are not considered *critical* habitat to the survival of these fish species in accordance with federal and state Endangered Species Acts, however, may be considered habitant of potential concern in regards to assessing cumulative impacts required by NEPA.

5. CULTURAL RESOURCES: No location within the TSA is included on the National Register of Historic Places. However, the TSA includes the Tsurai Village, which is both on the California Register of Historic Places and the California Historical Landmarks lists. There are both archaeological and historic resources within the TSA, including a cemetery. Therefore, some of the projects that have been recommended will need to be

mitigated, if not avoided, depending on their possible impact to the Tsurai Village. The finding of no historic properties affected, no adverse effect, or an adverse effect, is contingent on the scope of the project.

- **6. GEOLOGY AND SOILS:** There is an earthquake fault line approximately 1500 feet from the northeast corner of the TSA, and continuing in a northeast/west direction. This fault, however, does not bisect the TSA (See TAB 9) and the TSA is not within a Fault Hazard (Special Studies) Zone (LACO 2004: 15). In regards to liquefaction, LACO "estimate[d] a moderate probability of liquefaction to occur at this site due to the silty sandy soils present and saturated conditions which currently persist through much of the year at Tsurai Village" (LACO 2004: 14). Soil erosion is a concern within the TSA; therefore, this concern must be taken into consideration when any project is considered. LACO (2004) has determined that the "single greatest factor contributing to the destabilization o the coast bluff" is the addition of water to the subsurface (LACO 2044: 12).
- **7. HAZARDS AND HAZARDOUS MATERIALS:** Project site is not located within one mile of a National Priorities List, CERCLA, or equivalent state listed site. Moreover, there are no nearby toxic or solid waste landfill sites. There are also no underground storage tanks located on the project site.
- **8. HYDROLOGY AND WATERS:** No considered project will adversely effect water quality within the TSA, as defined by the North Coast Regional Water Quality Control Board Basin Plan. However, stormwater drainage may become an issue that must be considered, depending on the proposed project. Area of consideration has not been included in the area of study by the Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM). However, it may be concluded that the TSA is not in an area of flood concern as the directly adjacent lands are located in Zone C, which are "Areas of minimal flooding." Moreover, the U.S. EPA, does not indicate any Special Flood Hazard Areas or Moderate Flood Hazard Areas with the TSA.
- **9. LANDUSE AND PLANNING:** Portions of the TSA are zoned as "Open Space" and "Special Environment" within the City of Trinidad's General Plan and, thus, have particular requirements associated. Moreover, certain actions within the TSA are subject to Policy 69 of Trinidad's Local Coastal Plan. Lastly, there are no applicable habitat conservation plan or natural community conservation plans.
- **10. MINERAL RESOURCES:** No project could have an adverse effect on mineral resources of local, state, or regional importance.
- **11. NOISE:** No project should have an increased impact on ambient noise levels. In addition, the project area is not located near an arterial roadway or railroad.
- **12. POPULATION AND HOUSING:** No project should adversely effect population or housing.

- **13. PUBLIC SERVICES:** No project should have an adverse effect on public services, including fire, police, schools, parks, or other public facilities.
- **14. RECREATION:** No project should have an adverse effect on recreational facilitates.
- **15. TRANSPORTATION/TRAFFIC:** No project should have an adverse effect on issues of transportation or traffic.
- **16. UTILITIES AND SERVICE SYSTEMS:** No project should have an adverse effect on utilities or service systems.
- **17. COASTAL ZONE MANAGEMENT:** The TSA is located in the Coastal Management Zone, therefore, a permitting process would have to be adhered to or could be found exempt, depending on the scope of the project. In addition, if the project were determined a *federal undertaking*, then the project could be found exempt under the provisions of Section 304(a) of the federal Coastal Zone Management Act of 1972, as amended.
- **18. SOLE SOURCE AQUIFERS:** Project site will not affect a sole source aquifer.
- **19. WILD AND SCENIC RIVERS:** This site is approximately 41 miles from the closest Wild and Scenic River (the lower Klamath River) and, therefore, will not adversely affect a river that has been designated as Wild and Scenic.
- **20. ENVIRONMENTAL JUSTICE:** The proposed site is suitable for its proposed use and will not be negatively impacted by adverse environmental conditions. However, the assessment of whether a project will disproportionately adversely effect low income or minority populations is contingent on the scope and purpose of the project.

National Environmental Policy Act (NEPA) STATUTORY WORKSHEET¹

PROJECT NAME and DESCRIPTION - Include all contemplated actions which logically are either geographically or functionally part of the project:

Tsurai Study Area (TSA), consisting of 12.5 acres located along the Pacific Ocean in Trinidad, CA. The purpose of this Statutory Worksheet is to assess environmental concerns within the Study Area in accordance with the National Environmental Policy Act [40 CFR Part 6]. There is no proposed project for this area at this time. Rather this worksheet has been completed to assess the possible environmental concerns if a "federal undertaking" is ever proposed.

DIRECTIONS - Write "A" in the Status Column when the project, by its nature, does not affect the resources under consideration; OR write "B" if the project triggers formal compliance consultation procedures with the oversight agency, or requires mitigation (see Statutory Worksheet Instructions). Compliance documentation must contain verifiable source documents and relevant base data. Attach reviews, consultations, special studies as needed.

Compliance Factors:

Environmental and Cultural Laws pertaining to the National Environmental Policy Act

Status

A / B Compliance Finding and Documentation

	A/B	Compliance Finding and Documentation
Farmland Protection Policy Act [7 CFR 658]	А	The site is not located on or directly adjacent to farmland that is categorized as prime, unique or of state or local importance.
		In addition, none of the recommended projects will convert agricultural land to a non-agricultural use.
		(TAB 1)
Clean Air Act - [Sections 176(c), (d), and 40 CFR 6, 51, 93]	A	No recommended project will have the potential to emit significant emissions of air pollution. All State Ambient Air Quality Standards for the location are classified as attainment, except for Particulate PM10, which is nonattainment. However, the North Coast Unified Air Quality Management District is continually taking measures to reduce emissions of PM10 and bring ambient levels of PM10 down to below the state requirement. The Federal Ambient Air quality Standards have all been met in the site location.
		No asbestos has been identified at the site.
		North Coast Air Quality Facts, North Coast Unified Air Quality Management District
		North Coast Unified Air Quality Management District Particulate Matter (PM10) Attainment Plan
		(TAB 2)

¹ This NEPA Statutory Worksheet is not to be used for the purposes of NEPA compliance, but is only to provide a

186

preliminary assessment of the possible environmental concerns within the Tsurai Study Area.

Endangered Species Act	Δ.	There are no federally-listed threatened and/or
[50 CFR 402]	Α	endangered species within the TSA.
		U.S. Fish and Wildlife Service, Environmental Conservation Online System, Critical Habitat Mapper

		California Historical Landmarks lists. There are both archaeological and historic resources within the TSA, including a cemetery. Portions of the area have been previously excavated by Heizer and Mills (1952), however, the cemetery and other archaeological resources still remain. The Yurok Tribe Environmental Program, Cultural Resources Division, is conducting a preliminary cultural resources survey to determine the extent of the site. Therefore, some of the projects that have been recommended will need to be mitigated, if not avoided, depending on their possible impact to the Tsurai Village. The finding of no historic properties affected, no adverse effect, or an adverse effect, is contingent on the scope of the project.
Floodplain Management [24 CFR 55, Executive Order 11988]	А	Area of consideration has not been included in the area of study by the Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM). However, it may be concluded that the TSA is not in an area of flood concern as the directly adjacent lands are located in Zone C, which are "Areas of minimal flooding."
		FIRM Humboldt County, CA Panel 450 of 1900
		Community-Panel Number 060060 0450 B
		Effective Date July 19, 1982
		Accessed 3/5/06
		Moreover, the U.S. EPA, Window to My Environment Mapping Webpage does not indicate any Special Flood Hazard Areas or Moderate Flood Hazard Areas with the TSA.
		http://134.67.99.109/wme/myWindow.asp
		Accessed 4/7/06
		(TAB 11)
Coastal Zone Management Act [Sections 307(c), (d)]	A	The TSA is located in the Coastal Management Zone, therefore, a permitting process would have to be adhered to or could be found exempt, depending on the scope of the project. In addition, If the project were determined a federal undertaking, due to jurisdiction, under the provisions of Section 304(1) of the federal Coastal Zone Management Act of 1972, as amended, "excluded from the coastal zone are lands the use of which is by law subject solely to the discretion of or which is held in trust by the federal government, its officer or agent."
		California Coastal Commission Coastal Zone Map, Trinidad, CA Map 10 in conformance with maps adopted by the California Coastal Commission

		pursuant to Section 30103(b) of the California
		Coastal At of 1976 (California Public Resources Code Section 30000 et. seq.)
		Assessed 3/12/06
		(TAB 13)
Sole Source Aquifers	Α	Project site will not affect a sole source aquifer.
[40 CFR 149]		U.S Environmental Protection Agency, Sole Source Aquifers in EPA Region 9.
		http://www.epa.gov/safewater/swp/ssa/reg9.html Accessed 4/6/06
		(TAB 14)
Wild and Scenic Rivers Act [Sections 7(b), and (c)]	A	This site is approximately 41 miles from the closest Wild and Scenic River (the Klamath River) and, therefore, will not adversely affect a river that has been designated as Wild and Scenic.
Environmental Justice [Executive Order 12898]	Α	The proposed site is suitable for its proposed use and will not be negatively impacted by adverse environmental conditions. Assessment of whether a project will disproportionately adversely effect low income or minority populations is contingent on the scope and purpose of the project.
Clean Water Act [33 U.S.C. 1251 et seq.]		None of the proposed projects will have an adverse effect on water quality as defined by the North Coast Regional Water Quality Control Board Basin Plan. http://www.waterboards.ca.gov/northcoast/programs/basinplan/bpdocs.html . Accessed 4/13/06.
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) [42 U.S.C. 9601 et seq.] and The Superfund Amendments and Reauthorization Act (SARA); [42 U.S.C.9601 et seq.]		Project site is not located within one mile of a National Priorities List, CERCLA, or equivalent state listed site. Moreover, there are no nearby toxic or solid waste landfill sites. There are no underground storage tanks located on the project site. U.S. EPA National Priorities List sites website http://www.epa.gov/superfund/sites/npl/ca.htm Accessed 4/7/06
		California Department of Toxic Substances Control Database Hazardous Waste and Substances Site List (Cortese List)
		http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cf m_Accessed 4/7/06
		(TAB 10)

Preparer's Signature	Date

California Environmental Quality Act (CEQA) Checklist

Preliminary Assessment²

I. PROJECT INFORMATION

1. Project title:

Preliminary CEQA Assessment for the Tsurai Study Area (TSA)

2. Lead agency name and address:

Yurok Tribe Environmental Program 15900 Highway 101 N. Klamath, CA 95548

3. Contact person and phone number:

Megan Rocha, Environmental Coordinator (707) 482-1822

4. Project location:

Tsurai Study Area (TSA), consisting of 12.5 acres located along the Pacific Ocean in Trinidad, CA in Township 8 North, Range 1 West, Section 26 of the U.S.G.S. 7.5' Trinidad, Humboldt County, California Quadrangle. The Assessor Parcel Numbers that comprise the TSA are Humboldt County parcels APN: 042-102-42, APN: 042-091-05, APN: 042-102-41, APN: 042-102-40, and APN: 042-102-39.

- 5. Project sponsor's name and address: (See #2 & #3)
- 6. Custodian of the administrative record for this project (if different from response to item 3 above.): Kathleen Sloan, Assistant Director

Cultural Resources Division, Yurok Tribe Environmental Program

7. Identification of previous EIRs relied upon for tiering purposes and address where a copy is available for inspection.)

None applicable.

II. PROJECT DESCRIPTION

1. Description of project: (Describe the whole action involved, including but not limited to physical characteristics, site, later phases of the project, and any secondary, support, or off- site features necessary for its implementation and site selection process. Attach additional sheets if necessary.

² This CEQA Checklist is not to be used for the purposes of CEQA compliance, but is only to provide a preliminary

assessment of the possible environmental concerns within the Tsurai Study Area.

This checklist is being completed as a preliminary assessment of the possible environmental concerns with the TSA in order to inform the Trinidad Management Plan Team and Interested Public, as well as inform those future projects that may be recommended by the Tsurai Management Plan. There is no project at this time.

2.	Project Ob	jectives:					
	To assess	possible environme	ntal concerns	according to	CEQA	within the	TSA.

- 3. Surrounding land uses and environmental setting: Briefly describe the project's surroundings: The TSA is comprised of 12.5 acres along the Pacific Ocean coastline and within the City limits of Trinidad. There are three trails that extend through the TSA, providing recreational beach access. In addition, there is a replica lighthouse on the northern bluff, which is both a memorial to those lost at sea and a tourist destination. Within the TSA are resources of cultural significance, including archaeological remnants of the Yurok village of Tsurai and burial, as well as plants and uses of current cultural significance. The TSA is largely overgrown with both native and invasive species and is also heavily saturated. There are three streams running through the TSA into the Trinidad Bay, which has been designated as an Area of Special Biological Significance (ASBS).
- 4. Discretionary approval authority and other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

 The California Coastal Conservancy holds a conservation easement over the entire TSA. The California Coastal Commission, depending on the project, may require a permit. City zoning restrictions must also be adhered to, in addition to consultation through Policy 69.

III. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by a project, as indicated by the checklist on the following pages.

	Aesthetics		Agriculture Resources		Air Quality
X	Biological Resources	X	Cultural Resources	X	Geology/Soils
	Hazards & Hazardous Materials		Hydrology/Water Quality		Land Use/Planning
	Mineral Resources		Noise		Population/Housing
	Public Services		Recreation		Transportation/Traffic
	Utilities/Service Systems		Mandatory Findings of Significa	nce	-

IV. DETERMINATION: (To be completed by the Lead Agency)

On the ba	asis of the initial evaluation that follows:
X	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
X	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. A TIERED ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental document is required. FINDINGS consistent with this determination will be prepared.
Signature	Date Date

V. IMPACT QUESTIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
1. AESTHETICS Would the project:					
a) Have a substantial adverse effect on a scenic vista?					X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?					X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?					X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				_X	

2. AGRICULTURE RESOURCES:

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				TAB 1 X	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X_	
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X_	
3. AIR QUALITY Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?				TAB 2 X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				_X	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				TAB 2 X	
d) Expose sensitive receptors to substantial pollutant concentrations?				X	
4. BIOLOGICAL RESOURCES Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?					See Discussion Below TAB 3X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				See Discussion Below TAB 4 & 5	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				TAB 6 X_	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede				See Discussion Below TAB 5	
e) Conflict with any local applicable policies protecting biological resources?				X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?				TAB 7 X	
5. CULTURAL RESOURCES – Would the project: a) Cause a substantial adverse change in the significance of a historical resource as defined in \$15064.5?					See Discussion Below
					TAB 8 X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?					See Discussion BelowX
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				_x	
d) Disturb any human remains, including those interred outside of formal cemeteries?					See Discussion BelowX
6. GEOLOGY AND SOILS Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				See Discussion Below TAB 9	
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
ii) Strong seismic ground shaking?					
				X	
iii) Seismic-related ground failure, including liquefaction?					See Discussion BelowX
iv) Landslides?					See Discussion BelowX
b) Result in substantial soil erosion or the loss of topsoil?					See Discussion BelowX
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?					X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				_X	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?					_X
7. HAZARDS AND HAZARDOUS MATERIALS – Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				_X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				_X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				_X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				TAB 10 X_	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X	
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X	
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				_X	
8. HYDROLOGY AND WATER QUALITY Would the project:					
a) Violate any water quality standards or waste discharge requirements?				X	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				_X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?					_X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?					_X
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?					_X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
f) Otherwise substantially degrade water quality?				_X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				TAB 11 X	
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				_X	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				_X	
j) Inundation by seiche, tsunami, or mudflow?				See Discussion BelowX	
9. LAND USE AND PLANNING - Would the project:					
a) Physically divide an established community?				X	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or midesting an applicable of the purpose of avoiding or midesting an applicable of the purpose of avoiding or midesting an applicable of the purpose of avoiding or midesting an applicable of the purpose of avoiding or midesting an applicable of the purpose of avoiding or midesting an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance)					See Discussion Below
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				TAB 7 X	_X
10. MINERAL RESOURCES –Would the project:a) Result in the loss of availability of a					
known mineral resource that would be of value to the region and the residents of the state?				TAB 12 X	
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				_X	
11. NOISE – Would the project result in:					
a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?				_X	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				_X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				_X	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				_X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				_X	
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				_X	

12. POPULATION AND HOUSING

– Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				_X	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				_X	
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				_X	
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
Fire protection?				X	
Police protection?				X	

	Significant Impact	Significant with Mitigation Incorporated	Significant Impact	Impact	Contingent on Project – Possible Likelihood of Impact
Schools?				_X	
Parks?				_X	
Other public facilities?				_X	
14. RECREATION					
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				_X	
15. TRANSPORTATION/TRAFFIC Would the project:					
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?				_X	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				_X	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				_X	
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				_X	
e) Result in inadequate emergency access?				_X	
f) Result in inadequate parking capacity?					See Discussion BelowX
g) Conflict with applicable policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X_	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
16. UTILITIES AND SERVICE SYSTEMS – Would the project:					•
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				_X	
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X	
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X_	
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X	
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X	

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent on Project – Possible Likelihood of Impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X	
g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?				X_	
17. MANDATORY FINDINGS OF SIGNIFICANCE					
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or					
eliminate important examples of the major periods of California history or prehistory?				TAB 3X	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable					X
future projects)?					<u> </u>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Determination Contingent or Project – Possible Likelihood of Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				_X	
18. Fish and Game Determination Based on the information above, there is	no evidence tl	hat the project ha	as a potential fo	or a change	
that would adversely affect wildlife resort. The presumption of adverse effect set for evidence.					
X Yes (Certificate of Fee Exemption)					
No (Pay fee)					

VI. NARRATIVE DISCUSSION OF CHECKLIST EVALUATION (Unless discussion of impacts is integrated in Section V. 1-16)

4. BIOLOGICAL RESOURCES

- a) There are no federally-listed threatened and/or endangered species within the TSA. Although there are six species that are of special concern for the California Department of Fish and Game within or adjacent to the TSA, none of these species are currently listed as Threatened or Endangered. These six species include: 1) fork-tailed storm-petrel (*Oceanodroma furcata*), 2) coast cutthroat trout (*Oncorhynchus clarkii clarkii*), 3) Tracy's romanzoffia (*Romanzoffia tracyi*), 4) Pacific gilia (*Gilia capitata ssp. pacifica*), 5) Oregon coast Indian paintbrush (*Castilleja affinis ssp. litoralis*), and 6) running-pine (*Lycopodium clavatum*). Moreover, it has been determined that the *Aplodontia* species evident within the TSA is not the endangered *Aplodontia rufa nigra* (Point Arena Mountain Beaver), but rather, the non-protected *Aplodontia rufa humboldtana* (Humboldt Mountain Beaver).
- b) The TSA lies adjacent to Trinidad Bay, which includes Kelp Beds that were designated as an Area of Biological Significance (ASBS) in 1974. Despite this designation, which was created to protect the Bay's natural environment from pollutants, both recreational and commercial fishing, including kelp harvesting are allowed in Trinidad Bay. When the State began to designate Critical Coastal Areas (CCA) in 2002, in an effort to protect coastal areas by improving degraded water quality and to provide additional protection from nonpoint source pollution to marine areas with a recognized high resource value, ASBS' automatically were included as CCAs. In 2005, the Statewide CCA Committee chose one CCA in which to do perform a pilot project in each of the four regions, as well as one for the San Francisco Bay. The Trinidad Bay Kelp Beds were chosen for one of the pilot projects and the City of Trinidad is working with relevant State agencies and

organizations to create an Integrated Coastal Watershed Management Plan to address the pollution concerns of the Trinidad Kelp Beds. Due to the Bay's protected status, projects that may contribute to nonpoint source pollution may be denied. (See TAB 4).

b & d)In regards to migratory and native fish habitat, the assessment determined by California Department of Fish and Game, California Cooperative Fish and Habitat Data Program (CalFish), finds that Coho, Chinook, and Steelhead fishes are only *historically* or *possibly* located within the streams of the TSA. Moreover, Cutthroat has been determined as *probable* within the TSA. Therefore, the streams within the TSA are not critical habitat to the survival of these fish species. (See TAB 4).

5. CULTURAL RESOURCES:

No location within the TSA is included on the National Register of Historic Places. However, the TSA includes the Tsurai Village, which is both on the California Register of Historic Places and the California Historical Landmarks lists. There are both archaeological and historic resources within the TSA, including a cemetery. Portions of the area have been previously excavated by Heizer and Mills (1952); however, the cemetery and other archaeological resources still remain. The Yurok Tribe Environmental Program, Cultural Resources Division, is conducting a preliminary cultural resources survey to determine the extent of the site. Therefore, some of the projects that have been recommended will need to be mitigated, if not avoided, depending on their possible impact to the Tsurai Village. The finding of no historic properties affected, no adverse effect, or an adverse effect, is contingent on the scope of the project.

6. GEOLOGY AND SOILS:

a) In regards to earthquake fault lines near or within the TSA, the *Engineering Geologic Assessment of Tsurai Village with Recommendations for Future Management*, performed by LACO Associates (2004: 5), and supported with previous documentation states,

The project site and surrounding areas occupy a portion of the southwest dipping forelimb of the Trinidad anticline that formed in response to repeated movement along the Trinidad fault. An onshore segment of the Trinidad fault, commonly referred to as the Andersen Ranch fault, is designated by the State of California as being active, and is the closest recognized active fault to the project area (California Division of Mines and Geology, 2000). The onshore segment of the fault is likely located along the northern boundary of the Trinidad town site at the base of the slope below the Saunders' residence and projects through the city's cemetery. The Trinidad fault consists of a northwest striking, northeast dipping thrust fault (Coppersmith et al, 1982). The Andersen Ranch fault segment intersects the coastal bluff at Andersen Ranch about 1.5 miles north of Tsurai Village, where it clearly deforms marine terrace sands and gravels of Late Pleistocene age. Rust (1982) identified an additional potential fault segment located between Little Trinidad Head and Trinidad Head that projects offshore toward Pewetole Island continuing northwest to Elk Head. Although poorly defined, this fault segment may be responsible for the warped marine terrace surfaces observed above Trinidad State Beach and Elk Head. The upper bound earthquake considered likely to occur on the Trinidad fault has an estimated moment magnitude of 7.3 (CDMG, 1996). Ground accelerations of 0.06 to 0.70 g (60 to 70

percent of the force of gravity), or more, may be expected to occur on this site as a result of the regional design basis earthquake (Petersen *et al*, 1999; California Geological Survey, 2003).

Thus, there is an earthquake fault line approximately 1500 feet from the northeast corner of the TSA, and continuing in a northeast/west direction. This fault, however, does not bisect the TSA (See TAB 9) and the TSA is not within a Fault Hazard (Special Studies) Zone (LACO 2004: 15). In regards to liquefaction, LACO "estimate[d] a moderate probability of liquefaction to occur at this site due to the silty sandy soils present and saturated conditions which currently persist through much of the year at Tsurai Village" (LACO 2004: 14).

b) Soil erosion is a concern within the TSA; therefore, this concern must be taken into consideration when any project is considered. "The coastal bluff area around Trinidad Bay has a higher potential for slope failure, in general, than many areas of Humboldt County due to (among other factors) the step slopes, locally intense precipitation events, exposure to northwest winter swells refracting around Trinidad Head, and easily-erodible Franciscan mélange bedrock underlying the poorly consolidated marine terrace deposits (LACO 2004: 10). LACO (2004) has determined that the "single greatest factor contributing to the destabilization o the coast bluff" is the addition of water to the subsurface (LACO 2044: 12).

8. HYDROLOGY AND WATER QUALITY:

j) Tsunamis have occurred historically within Trinidad Bay, however, no project that is proposed will dramatically increase the likelihood that people will be located in an area during a tsunami event.

9. LAND USE AND PLANNING:

b) Portions of the TSA are zoned as "Open Space" and "Special Environment" within the City of Trinidad's General Plan and, thus, have particular requirements associated. Moreover, according to Policy 69 of Trinidad's Local Coastal Plan,

There shall be no disturbance, vegetative removal or construction, except for a protective fence around the burial ground, on lands designated as Open Space within the Tsurai Study Area without the approval of the lineal descendants of Tsurai, Trinidad Rancheria, City of Trinidad, and the State Historic Preservation Officer. Lands designated as Special Environment within the Study Area may be developed as provided in the Special Environment regulations provided the State Historic Preservation Officer is consulted and reasonable measures are required to mitigate any adverse impacts on this cultural resource.

Therefore, these policies must be adhered to when considering any project within the TSA.

15. TRANSPORTATION/TRAFFIC:

f) If the project were to develop a trail within the Parker Creek corridor or promote Parker Creek Trail as the primary trail after obtaining legal access rights, then parking could cause a potential problem that would need to be resolved.

Appendix F: LACO Study of TSA (Text only- no figures)

ENGINEERING GEOLOGIC ASSESSMENT OF TSURAI VILLAGE WITH RECOMMENDATIONS FOR FUTURE MANAGEMENT

Prepared for the Tsurai Ancestral Society Post Office Box 62, Trinidad, California 95570

LACO ASSOCIATES Project No. 5612.00

November 2004

1.0 INTRODUCTION

This report presents the results of LACO ASSOCIATES' (LACO's) engineering geologic investigation and review conducted at Tsurai Village and surrounding use areas in Trinidad, California. The site is listed as Number 838 on the California State Historical Landmarks registry and formerly consisted of a pre-European to early 20th century permanent Native American community. The Tsurai Village study area encompasses a total of 12.5 acres of land currently owned by the City of Trinidad. The project area is located in the NE ¼ of Section 26 and SE ¼ of Section 23, T. 8 N., R. 1 W., Humboldt Baseline and Meridian, of the Trinidad 7.5-Minute Series Topographic Quadrangle. The project location is shown on the attached location map (Figure 1, Note that Figures are not included in the Management Plan, but can be found in the original LACO document), assessor's parcel map (Figure 2), earthquake fault hazards map (Figure 3), aerial site photographic map (Figure 4), and site photograph taken from Trinidad Head (Figure 5).

The heart of Tsurai Village is located on the lower slope of the coastal bluff above Old Home Beach, commonly referred to today as Indian Beach, approximately 25 to 40 feet above the high tide line. According to the late Axel R. Lindgren, lineal descendant of Tsurai, the village originally contained 12 family houses, a sweat house, brush dance pit, a modern-day dance hall, water hole, graves, and trails. The structures were constructed of hand-split redwood planks partially built below ground level (Heizer and Mills, 1952), and were located west of Parker Creek and east of Pepperwood Creek. The Tsurai chose this location "because of its stability, natural protection from storms, food quantity, water quality, and the beautiful view offered as they grind their food and chipped-out stone tools and weapons." Currently, physical evidence indicating the ancestral presence of Tsurai consist of the exposure of human remains and shell mound middens within the

coastal bluff toe slope between Pepperwood Creek and Alder Creek. In addition, it is LACO's understanding that sacred burial grounds are present throughout the 12.5 acre site.

The last inhabitants of Tsurai Village moved from the site in 1916 due mainly to pollution of their water source by garbage dumped off the bluff edge by residents of the Sea Breeze Hotel, situated approximately at the present location of the Frame residence. In an early 20th century photograph taken from Trinidad Head looking southeast towards Tsurai Village, several bluff top areas used as garbage chutes are evident in the right-half of the photo, directly above the last remaining Tsurai home sites. To this day, much garbage remains on the site. During the following years the area was grazed by livestock up until 1943. For the next half century, with no maintenance by man or livestock, Tsurai Village went from a green pasture dotted by conifers to a landscape overgrown with elderberry, nettle, alders, and willows. More recently, English ivy and Himalayan berry have begun to thrive, possibly as a result of bluff top residents disposing of yard waste on the slopes above Tsurai Village. Sadly, the current jungle-like condition of the site has invited vandals and grave robbers in search of Tsurai artifacts and sacred human remains.

In 1979 the property was purchased by the Coastal Conservancy to hold until area park land could be established. The property was eventually purchased by the City of Trinidad in 1989 with the Coastal Conservancy retaining a conservation easement to protect access, and cultural and natural resources. Ironically, in the following few years the City of Trinidad attempted to blockade the traditional trail that accesses Old Home Beach from the coastal bluff. The traditional trail, now officially known as the Axel Lindgren Memorial Trail, has since become permanent with the addition of constructed steps and will soon include a handrail for safer use.

2.0 SCOPE OF THIS INVESTIGATION

LACO was retained to provide an engineering geologic assessment of the general stability of Tsurai village and surrounding areas. Our scope of work included the following: (1) research, review, and summarization of the available existing geotechnical reports prepared by others; (2) limit-equilibrium slope stability modeling and assessment of the coastal bluff which has potential to adversely affect Tsurai Village as a result of slope instabilities; (3) provide recommendations for future management of the site geologic and geotechnical hazards; (4) provide recommendations addressing

vegetation control, surface run-off control, and erosion control resulting from increased use of the site, and; (5) discuss the potential geologic and geotechnical implications of maintenance of Tsurai Village, access trails, and surrounding use areas. Potential primary geologic hazards affecting the project site include, but may not be limited to, slope instability due to coastal erosion, surface erosion due to uncontrolled runoff emanating from upslope residential hardscaped areas and bare areas resulting from vegetation removal, slope failure induced by strong earthquake ground shaking, tsunami inundation, and year-round high groundwater conditions resulting from densely spaced residential septic systems and diversion of run-off from a neighboring property.

3.0 PROPOSED PROJECT IMPROVEMENTS AND ISSUES OF CONCERN

The Tsurai Ancestral Society is considering improvements and potential development of a ceremonial site at Tsurai Village. Improvements being considered consist of the following:

- Removal and control of non-native vegetation in and around Tsurai Village;
- Revegetation of Tsurai Village with native plant species;
- Emplacement of drainage structures to control surface run-off being delivered from a neighboring property which is exacerbating year-round saturated soil conditions at Tsurai Village;
- Emplacement of erosion control measures to minimize potential erosion resulting from increased use of the site;
- Construction of protective fencing around Tsurai Village and burial grounds;
- Removal and re-routing of the portion of the Axel Lindgren Memorial Trail (Traditional Trail) currently sited on failing sidecast fill to its original alignment through the Trinidad Lighthouse grounds;
- Construction of a hand rail and maintenance of the Axel Lindgren Memorial Trail that accesses Old Home Beach, and;
- Installation of signage to educate public about history and significance of Tsurai Village.

In addition to the desired improvements, LACO has also addressed in this report the following issues of concern raised by the Tsurai Ancestral Society:

• Erosion concerns related to foot traffic along the Wagner Street Trail;

- Dumping of yard waste on the slopes above Tsurai Village by local bluff top land owners;
- Topping and cutting down of trees on Tsurai Village by the local bluff top land owners, resulting from their desire for unobstructed views;
- Control of surface runoff draining onto the slopes above Tsurai Village which
 originates from the roofs, driveways, and patios of the local bluff top residences,
 and;
- Contamination of the springs in and around Tsurai Village, used as traditional water sources, with effluent from failing and overloaded septic systems.

4.0 GEOLOGIC SETTING

Tsurai Village is located within the northern Coast Ranges Geologic Province. The northern Coast Ranges Geologic Province in northwestern California is a seismically active region in which large earthquakes may be expected to occur during the economic life span of any developments on the subject property. Field investigation and published mapping (Rust, 1982; Stephens, 1982; Carver and Burke, 1989) indicate the project area to be underlain by uplifted and gently southwest tilted late Pleistocene marine terrace sediments in depositional contact with underlying central belt Franciscan Formation bedrock. Pleistocene marine terrace deposits consist of alternating sequences of gravels with sand and poorly graded sands capped by silty sands and silts of probable dune origin. The underlying Franciscan Formation consists primarily of mélange containing large, disparate blocks of resistant metamorphosed basalts (oceanic crust), chert, and sandstone within a matrix of highly sheared argillites containing abundant clay ("blue goo") with minimal internal strength.

The marine terrace surface, which comprises the landform occupied by the City of Trinidad, has been correlated with the Patrick's Point terrace located further north along the coast. This terrace surface was probably formed during the interglacial sea-level high stand that dates to about 82,000 years ago (Rust, 1982). Rust also reported two additional younger terrace surfaces present at elevations below the Patrick's Point terrace along the margins of Trinidad Bay. The depositional contact of the marine terrace sands and bedrock abrasion platform is generally located about a third of the way upslope as viewed from Old Home Beach. The bedrock abrasion platform at this location generally consists of Franciscan Formation mélange as described above.

Franciscan Formation mélange is particularly prone to slumping due to its relatively low internal shear strength and direct exposure to wave and tidal action. Continual removal and landward retreat of the toe slope ultimately results in destabilization of the mid-slope areas. As the toe slope retreats and becomes over-steepened, lateral spreading of the clayrich mélange in the seaward direction ensues resulting in slumping of the overlying marine terrace deposits. The edge of the coastal bluff crest above Tsurai Village is characterized by coalescing, arcuate shaped head scarps having likely formed in response to shallow, translational/rotational debris slides. Consequently, the upper portions of the bluff becomes increasingly steep over time resulting in bluff crest retreat which has the potential to deliver sediment to the slopes below, including Tsurai Village. Presently, settlement and cracking of concrete is readily observable around the Trinidad Lighthouse which may be a precursor to future slope instability at this location. Based on conversations with the Lindgren brothers of the Tsurai Ancestral Society, a recent debris slide (less than 25 years ago) originating along the bluff crest occurred west of the lighthouse near Van Wycke Street, resulted in sediment delivery to the slopes below. Presently, the headscarp and transportational midslope at this location are vegetated with invasive English ivy and are completely devoid of trees and shrubs which attest to the recency of slide activity.

Tsurai Village is located on what appears to be a remnant of a former Late Pleistocene-aged marine terrace surface. The isolated benched slope the village site occupies may correlate with younger terraces noted by Rust (1982) to the east along Trinidad Bay. Alternatively, the topographic bench may be a back-tilted slope remnant having formed in response to deep seated translational/rotational landsliding of a portion of the coastal bluff. Based on the elevation of the site, and the occurrence of marine terraces surrounding Trinidad Bay at similar elevations, it is quite possible that the village is situated atop a marine terrace remnant that may have once extended further southward into Trinidad Bay. Continual tide and wave erosion of the toe slope along the back edge of Old Home Beach has since undermined the slope resulting in past and present coastal retreat.

The project site and surrounding areas occupy a portion of the southwest dipping forelimb of the Trinidad anticline that formed in response to repeated movement along the Trinidad fault. An onshore segment of the Trinidad fault, commonly referred to as the Andersen Ranch fault, is designated by the State of California as being active, and is the

closest recognized active fault to the project area (CDMG, 2000). The onshore segment of the fault is likely located along the northern boundary of the Trinidad town site at the base of the slope below the Saunders' residence and projects through the city's cemetery. The Trinidad fault consists of a northwest striking, northeast dipping thrust fault (Coppersmith *et al*, 1982). The Andersen Ranch fault segment intersects the coastal bluff at Andersen Ranch about 1.5 miles north of Tsurai Village, where it clearly deforms marine terrace sands and gravels of Late Pleistocene age. Rust (1982) identified an additional potential fault segment located between Little Trinidad Head and Trinidad Head that projects offshore toward Pewetole Island continuing northwest to Elk Head. Although poorly defined, this fault segment may be responsible for the warped marine terrace surfaces observed above Trinidad State Beach and Elk Head. The upper bound earthquake considered likely to occur on the Trinidad fault has an estimated moment magnitude of 7.3 (CDMG, 1996). Ground accelerations of 0.60 to 0.70 g (60 to 70 percent of the force of gravity), or more, may be expected to occur on this site as a result of the regional design basis earthquake (Petersen *et al*, 1999; CGS 2003).

5.0 SITE INVESTIGATION

To assess site conditions within the project and surrounding areas, several visits were conducted by a registered geologist and certified engineering geologist from LACO during the months of February through August. Site visits were generally conducted during inclement weather, which included periods of heavy precipitation and high surf, to witness firsthand creek flows, surface runoff, and active erosional processes. Additional site visits were conducted during the summer months to observe changes in stream discharge. No subsurface excavations or borings were installed due to the sensitivity of the site which includes buried remains and artifacts from the original inhabitants of Tsurai Village. Extensive review of the voluminous body of literature including consultant's and state agency reports published during the past 15 years. Archival photos and recent aerial photos of Tsurai Village were also examined to compare present-day coastal bluff features with those at the turn of the century. A limit-equilibrium slope stability analysis was performed by Dr. Ronald Chaney, geotechnical engineer, to assess the overall stability of the coastal bluff, and the effect foot traffic along Wagner Street Trail and an elevated water table has on the stability of the bluff.

5.1 PREVIOUS INVESTIGATIONS

During the past 15 years, numerous geologic evaluations have been conducted assessing the general stability of the coastal bluff above Tsurai Village, particularly in the vicinity of the Wagner Street Trail and Trinidad Lighthouse (Busch Geotechnical Consultants, 1990, 1995, 2002, 2003a, 2003b; LACO ASSOCIATES, 1994a, 1994b; SHN, 1996; Taber Consultants, 2003; Chaney et al, 2004). The Wagner Street Trail, which provides public access to the Parker Creek Trail and Old Home Beach, has been a source of a contentious lawsuit between local homeowner John Frame and the City of Trinidad. The Coastal Conservancy has also been recently named a defendant in the lawsuit due to their ownership of the easement along which the Wagner Street Trail is aligned. To date, two slope inclinometers have been installed by Taber Consultants along Wagner Street to a maximum depth of 78 feet below ground in order to measure any potential deep seated landsliding. In addition, a total of 44 shallow tiltmeters at 11 sites, and 29 surveyed grid pins have been installed by Busch Geotechnical Consultants (Busch) south of the Frame residence along the outer edge of the coastal bluff in order to measure and quantify low magnitude slope movements and soil creep along the Wagner Street Trail. A detailed analysis of the tiltmeter observations has been provided in the Busch report, dated April 2003.

In summary, Taber Consultants (2003) reports that the slope inclinometers, located within Wagner Street, do not indicate appreciable lateral displacement to the depths explored (78 feet below grade). The measurements recorded suggest that the marine terrace deposits below the upper five feet of the soil profile are relatively stable and do not show signs of incipient large-scale (or deep-seated) bluff movement. However, the upper five feet of the soil profile, consisting mostly of native topsoil composed of silt and fine sand, is considered highly susceptible to settlement, slumping, and erosion. The pattern of outward tilting demonstrates this slope to be fragile and subject to shallow (translational) bluff failures.

Additionally, Taber Consultants state that repeated impacts of foot traffic in conjunction with active animal burrowing along the Wagner Street Trail are having detrimental effects to the bluff, resulting in accelerated settlement, erosion, and slumping. It is their opinion, "that the potential for future failures along the edge of bluff is substantially increased as a result of foot traffic and other surface influences. Such failures could result in significant hazard to public safety, create erosional gullies leading downslope and deliver sediment/debris onto the subjacent Tsurai site."

Busch states that based on surveyed grid pin measurement, up to 0.25 feet (3 inches) of settlement and 0.14 feet (less than 2 inches) of south directed lateral movement (toward Trinidad Bay) was measured along the Wagner Street Trail access during the approximate 33-month observation period. Three tiltmeters indicated that the trail area near the outer slope break along the bluff top is experiencing rapid-rate soil creep due to the affect of gravity on soils loosened by burrowing rodents. Two tiltmeters indicated a slowly back-tilting (slumping) mass of soil that is decoupled (detached) from the soil mass on which the other tiltmeters sit. The trail monument and access area is purportedly on this decoupled soil mass. Collectively, the slope monitoring devices indicate "slow" to "rapid-rate" shallow soil creep to be occurring in the vicinity of the Wagner Street Trail. Based on these observations, Busch concludes that active slope failure is occurring in the vicinity of the Frame residence and Wagner Street Trail, and rates of movement are likely to increase in the future. Busch also states "that in the human time-scale, the failure of a decoupled soil mass at the Wagner Street Trail access is imminent" (April, 2003).

6.0 FACTORS AFFECTING LANDSLIDE HAZARDS

The "factor of safety" is a term commonly used to describe the potential for slope failure. The factor of safety (F_S) is defined as the ratio of the shear strength of coastal bluff material to the driving shear stress. Accepted engineering practice is to ensure that the factor of safety (F_S) exceeds 1.2 for the weakest failure surface. Slopes where F_S equal one are at incipient failure. F_S less than one indicates failure. Slope failure using limit-equilibrium methods is defined as the condition where the shear strength of the bluff material is exceeded by the driving shear stress generated by both the internal and externally applied loads. Efficient and widely accepted limit-equilibrium methods by Janbu and Bishop can be analyzed using the FORTRAN computer model, STABL. When provided with the site's geometry, lithology, mechanical soil properties, loads, and groundwater conditions, STABL can quickly evaluate F_S for numerous potential failure surfaces transecting several lithologic units (Seigel, 1975). The slope stability conditions presented in this report were analyzed with STABL using both Bishop's and Janbu's methods with circular slip surfaces, and Janbu's method with a randomly generated failure surface (Turner and Schuster, 1996).

The most common landslide triggering mechanism is water, both the degree to which a slope or portion of slope has become saturated and the cumulative effects of successive

wetting and drying on soil structure. The resulting conclusion is that groundwater and surface runoff have significant destabilizing effects on presently stable slopes that would have F_S greater than one under drained conditions. The shear strength can be effectively reduced to zero by tension cracks that form as a result of soil shrinking and swelling caused by repeated cycles of wetting and drying. Tension cracks can also accelerate failure by channeling water directly to the slip surface (failure plane) or may pose an even greater risk when allowed to fill with water, whereby the resulting hydrostatic head exerts force in all directions.

The driving shear stress may be increased due to the weight added when water displaces air in soil pore spaces (Terzaghi *et al*, 1996). The net result is a destabilized slope where the buoyant force exerted on soil particles due to increased groundwater pore pressure reduces the intergranular stresses, therefore reducing the resisting shear strength. Aside from seasonal fluctuations in groundwater elevation, the controllable causes of a rising groundwater surface include the following: 1) infiltration of runoff from impervious surfaces such as roofs, patios, and driveways; 2) discharges from leachfield septic systems; 3) over-irrigation of landscaping, and; 4) reduced evapotranspiration resulting from vegetation removal.

Strong earthquake ground shaking resulting from local and regional seismic events may also initiate landslides. Many of the bluffs along the Northern California coast, including those around Trinidad Bay and north to Patrick's Point, are the result of repeated seismic-related uplift, whereby the rate of tectonic uplift outpaces the rate of coastal bluff retreat. The vertical and lateral accelerations produced during a seismic event impart kinetic energy to a soil mass and will trigger slope failure. Numerous instances of slope failure were documented following the 1992 Petrolia earthquake and may be expected to occur during future seismic events. The likely worst-case scenario for coastal bluffs in the Trinidad area would be for a large seismic event to occur during, or immediately following, an unusually wet winter.

6.1 SITE CONDITIONS AND SLOPE FAILURE PROCESSES

The geology along most of the Northern California Coast, including Trinidad Bay, is characterized by relatively low-strength bedrock of the Jurassic- to Cretaceous-aged Franciscan Formation, overlain by poorly consolidated and uplifted Pleistocene-aged marine terrace deposits. High rates of precipitation coupled with steep topography,

frequent earthquakes, large winter-time ocean swells, and extreme tides have resulted in high erosion rates and the occurrence of ongoing slope failures. Based on existing topography and morphologic features, it can be demonstrated that prehistoric landslides were common to this area. Historic land use practices, including road and residential construction, excessive landscape irrigation, leachfield discharge, and human alteration to natural drainage patterns have commonly exacerbated pre-existing slide-prone areas.

Coastal sites are typically subjected to multiple processes that conspire to keep slopes from reaching equilibrium and hence, stable configurations (*i.e.* the natural angle of repose). These processes include active tectonic uplift of the coastline, erosion of the toe slope by surf and tides, and bluff-top erosion caused by precipitation and surface runoff. Added loads resulting from man-made structures and improperly placed fill materials can also place slopes at additional risk by increasing the driving forces leading to destabilization. Additional frequent man-made causes of slope failure are poorly designed or inadequately maintained drainage networks. As a result, groundwater elevations are raised and the effective shear strength of the soil reduced, which increases the driving force while dramatically decreasing F_S.

Toe-slope erosion occurs when wave action or tidal currents transport colluvium or low-strength bedrock away from the base of a slope or bluff. Despite the relatively low strength of unconsolidated colluvium derived from failed mélange or marine terrace deposits, a significant mass at the slope toe can buttress the slope and limit the potential for, or size of, a rotational failure until the mass is transported away by wave and tidal action. Therefore, erosion of the toe slope tends to decrease F_S over time. Unlike some sites where toe erosion occurs very slowly or not at all, slopes with rapid toe erosion cannot reach equilibrium and will continue to fail as long as the erosion continues. This process can be witnessed along several sites within Trinidad Bay, particularly along the toe slope below Tsurai Village along the back-edge of Old Home Beach.

Improperly controlled surface run-off can incise gullies perpendicular to the slope, which will tend to reduce F_S in a manner similar to toe erosion. Bluff erosion and retreat increases the gully flow line gradient which eventually leads to further slope destabilization. Subsequent runoff down the gully will transport newly deposited sediment into the swash zone and away from the bluff. While slope erosion itself causes coastal bluffs to retreat slowly, the resulting landslide volume can easily be as large, or

larger, than the volume of material that is removed by erosion from the face of the bluff (Barlow, 1980). For this reason, if a slope is to be stabilized, it is equally important to control surface runoff in such a manner that eliminates formation of gullies (Larson and Slosson, 1997).

Increased groundwater surface elevations exert destabilizing effects on slopes by increasing the load on the slope (driving forces) and decreasing the soil strength (resisting forces). Additionally, rapidly increased piezometric head created within water-filled tension cracks or other zones of high vertical permeability create lateral hydrostatic forces that can push a block of soil toward failure. Although groundwater elevations vary seasonally with precipitation, factors such as leaky water mains, excessive landscape irrigation, improperly drained runoff from impermeable surfaces such as roofs and patios, and wastewater effluent from undersized and closely spaced leachfields can result in locally increased groundwater elevations, thereby decreasing F_S. Furthermore, increased groundwater elevations result in increased spring flow and slope incision, thereby accelerating slope failure by the aforementioned gully failure processes.

Many of the slopes in coastal Humboldt County, particularly along the west facing coastal bluffs south and north of the project area, show evidence of active coastal retreat. Slope failure has occurred along several sections of bluff during recent wetter-than-average winters when coupled with spring tides (new and full moon phases) and strong ground swells originating from the Gulf of Alaska. The coastal bluff area around Trinidad Bay has a higher potential for slope failure, in general, than many areas of Humboldt County due to (among other factors) the steep slopes, locally intense precipitation events, exposure to northwest winter swells refracting around Trinidad Head, and easily-erodible Franciscan mélange bedrock underlying the poorly consolidated marine terrace deposits.

Previous coastal bluff stability evaluations (Tuttle, 1981; Chaney and Tuttle, 1988; LACO ASSOCIATES, 2001) indicate that bluff recession typically occurs episodically, with large events occurring every half-century or so involving coastal retreat on the order of tens of feet. Evidence of past slope failure is observable along the entire Trinidad area coast, from Moonstone Beach northward to the Big Lagoon community. Aerial photographic interpretation of historic photos dating from 1942 to 1998, indicate significant bluff retreat has occurred along this section of coast. West of the Agate Beach campground, about 120 feet of bluff retreat has occurred between 1948 and 1996 yielding

an average bluff retreat rate of approximately 2.5 feet per year. At Agate Beach campground, in the vicinity of the day-use parking area, approximately 42 feet of bluff retreat has occurred since 1956. According to park personnel, the majority of bluff retreat took place over a 12-hour period during a 1986 storm event. The average annual rate of bluff retreat at this location is therefore about one foot per year.

At the community of Big Lagoon, about 100 feet of bluff retreat has occurred between 1942 and 1998. Of this total, 60 feet of bluff was eroded during February 1998 due to high storm surf and tides. The average annual rate of bluff retreat at Big Lagoon between 1942 and 1998 is estimated to be 1.8 feet per year.

The rates of beach and bluff migration in the vicinity of Tsurai Village were determined by evaluating historic drawings, maps, survey records, and photographs depicting the location of the coastline relative to identifiable offshore rocks and onshore structures (Tuttle, 1981; Chaney and Tuttle, 1988). Neither the beach nor bluff at the site was observed to have changed significantly over the period of time dating back to 1851, the date of an early pencil drawing of Trinidad and its surroundings (Tuttle, 1981). However, it was noted that some areas had accreted while others had retreated. The portion of Old Home Beach directly downslope of Tsurai Village was noted to have retreated approximately 5 to 10 feet. Field observations confirm that this portion of bluff is actively retreating.

Following the winter storms of 2004, freshly exposed shell middens and ancestral human remains were actively being exhumed by wave and tidal action. However, based on Tuttle's observations and the ongoing occupation of Tsurai Village up until the early twentieth century, it appears that the coastal bluff at the subject site has been relatively stable over the last 150 years, and quite probably longer. The relatively low rates of coastal retreat at Old Home beach, compared to the Patrick's Point and Big Lagoon areas, are likely the result of its southerly exposure and protection from the brunt of large winter-time northwest swells by Trinidad Head.

6.2 SLOPE STABILITY ANALYSIS METHODOLOGY

The lithologic information, soil properties, topographic profiles, and field observations of the Tsurai Village bluff were input into the WinStabl, a pre- and post-processor for the STABL slope analysis program. The idealized models were developed based on the

stratigraphy exposed in the bluff face. The values of the various material properties used are based on a combination of engineering judgment and laboratory test results of coastal bluff materials collected elsewhere in Humboldt County. Slope stability conditions were analyzed using both Bishop's and Janbu's methods with circular slip surfaces, and Janbu's method with a randomly generated failure surface. The F_S for the slope was calculated in a completely drained condition and also using three groundwater surface profiles. Additionally, F_S was calculated under seismic loading conditions. Slope stability analysis was performed for a slope transect extending from Wagner Street down to the Old Home beach. Predicted limiting failure planes with estimated material properties are included as Figure 6.

Results of the analysis indicate that loading of the bluff from trail users has no practical effect on the calculated value of F_S for the subject slope. However, increases in the groundwater surface elevation have a dramatic effect on the calculated value of F_S at this site. The worst case scenario reduces F_S by almost half. The application of seismic loading to the slope model further reduces the predicted value of F_S . In summary, addition of water to the subsurface is likely to be the single greatest factor contributing to the destabilization of the coastal bluff. High groundwater conditions coupled with strong earthquake ground shaking has the highest probability of producing a mass wasting landslide event. It is highly likely that ongoing development of the City of Trinidad has resulted in increases in the groundwater surface elevation due to the numerous, closely spaced leachfields present.

7.0 TSURAI VILLAGE GROUNDWATER CONDITIONS

Several springs that feed the small creeks adjacent to Tsurai Village are located along the upper portions of the coastal bluff. The elevations of these emergent water sources likely indicate the minimum groundwater surface elevation at these locations. A recent, unrelated site investigation conducted by LACO, approximately 500 feet west of the lighthouse along Edwards Street, indicated the groundwater surface to be greater than 20 feet below ground surface. This appears to be consistent with the elevation of the springs feeding the local creeks on the slopes adjacent to Tsurai Village.

At the time of LACO's site visits to Tsurai Village during the winter and spring months, the ground surface in and around the village was saturated with localized channels of flowing water. It is improbable that such saturated conditions existed during past

occupation of the village site as indicated by the fact that the Tsurai built their long houses partially below ground level. It is unlikely that the elevated groundwater conditions at this site are the result of natural causes, but rather are caused by increased water usage due to ongoing development within the City of Trinidad.

It has been noted by the Tsurai descendants that in the past the creeks would typically cease flowing across the surface of Old Home Beach during the summer and fall months. They report that the local creeks nowadays generally flow year-round down to the beach and to the ocean's edge. During our recent site visits in the late summer months, we too observed substantial stream flow across the surface of Old Home Beach, despite the lack of any precipitation during the preceding three to four months. At this time stream flow was of such volume as to create well defined channels, 2 to 3 feet deep and 4 to 5 feet wide within the beach sands. The channel bottom consisted of a coarse cobble lag deposit typically observable during the winter months only. The observations and the anecdotal evidence spanning a 40 to 50 year period provided by the Tsurai descendants indicate the groundwater elevation beneath the City of Trinidad to have risen as a result of ongoing development.

The most notable cause for the observed saturated conditions at Tsurai Village is an inboard ditch that captures and redirects surface runoff originating from the neighboring property to the east. The driveway that serves the residence consists of a cut bank in the hillside that has intercepted the groundwater surface. Seepage from the cut bank and surface runoff from the driveway is captured by the inboard ditch and delivered across the residence's western property boundary directly onto the village site.

In April 2003, samples of groundwater sources traditionally used for ceremonial purposes were collected by the Tsurai Ancestral Society and submitted to North Coast Laboratories (NCL) to test for the presence or absence of total and fecal coliform. Two samples (Samples 1 and 2) were collected directly from springs located along the upper slopes, thereby precluding the possibility of animal derived coliform. One additional sample (Sample 3) was collected from a flowing creek along Old Home Beach. Samples were submitted to NCL for testing. Results reported with a greater than symbol (>) indicate concentrations that are beyond the detection limits of the test. Copies of the analytical laboratory results are attached. Sample 1, collected from the spring below the lighthouse adjacent to the Traditional Trail, indicated a total coliform and fecal coliform count of

>23.0/100 ml and 5.1/100 ml of sample, respectively. Sample 2, collected from the spring below the Tsurai Monument near the corner of Edwards and Wagner Street, indicated a total and fecal coliform count of 6.9/100 ml and <1.1/100 ml (absent). Sample 3, collected from a creek flowing onto Old Home Beach, indicated a total coliform count of >23.0/100 ml and fecal coliform count of >23.0/100 ml. It should be noted that these results represent a minimum for the constituents tested for and indicate the presence of total and fecal coliform.

The North Coast Basin Plan water quality objectives state that the median 30-day level (based on 5 samples per 30 days) for fecal coliform should not exceed 50 parts per 100 ml (50/100 ml). As sampling occurred during April 2003, a month of record precipitation in Humboldt County, it is likely that the reported minimum concentrations were diluted as a result of increased subsurface groundwater flow.

8.0 LIQUEFACTION HAZARD

Liquefaction is the loss of soil strength, resulting in fluid mobility through the soil. Liquefaction typically occurs when uniformly-sized, loose, saturated sands or silts are subjected to repeated shaking in areas where the groundwater is less than 30 feet below the surface. In addition to the necessary soil and groundwater conditions, the ground acceleration must be high enough and the duration of the shaking must be sufficient for liquefaction to occur. Based on LACO's limited-scope site investigation, we estimate a moderate probability of liquefaction to occur at this site due to the silty sandy soils present and saturated conditions which currently persist through much of the year at Tsurai Village. There also exists a potential for lateral spreading and/or slumping to occur due to the lack of subjacent support along the seaward edge of the site.

8.1 SURFACE DRAINAGE HAZARDS

Uncontrolled surface drainage and runoff originating from residences and City streets bordering the 12.5-acre site poses a significant hazard to Tsurai Village. Presently, a continuous asphalt berm runs from Wagner Street to Van Wycke Street. To the west, at Van Wycke Street where the berm ends, runoff is redirected from Edwards Street onto this side street along its outboard edge where it flows unimpeded over the bluff edge. Shallow translational/rotational failures of the type observed along the crest of the coastal bluff, indicated by coalescing arcuate headscarps, also have the potential to occur on the slopes above Tsurai Village due to concentrated surface runoff derived from hardscaped

surfaces of the residences along Wagner Street, some of which appear to drain directly on the slopes above Tsurai Village, contributing excessive volumes of runoff.

Runoff derived from the downspouts draining resident rooftops, particularly the Frame residences, appears to be collected by landscape-type drainage inlets, transported through flexible pipe, and discharged onto the slopes below, directly above Tsurai Village. A slot drain that collects surface runoff on the paved roadway accessing Wagner Street Trail also is likely to discharge concentrated runoff to the slopes below. It is unclear where the discharge points are actually located due to the heavy brush and landscape yard waste present along the slopes below the residences. Concentrated discharge, if allowed to remain uncontrolled, renders the slopes above Tsurai Village particularly susceptible to future erosion and potential failure.

As stated above, the most notable contributor of surface runoff to Tsurai Village is the Sebring property located due east of Tsurai Village. The inboard ditch that captures and redirects surface runoff, originating from this neighboring property to the east, consists of a cut bank that has intercepted the groundwater surface. Seepage from the cut bank and surface runoff from the driveway is captured by the inboard ditch and delivered across the residence's western property boundary directly onto the village site. Saturation of the village grounds, in conjunction with wave and tidal action undermining the toe slope, is, in our opinion, accelerating the rate of downslope soil creep resulting in exhumation of ancestral human remains and middens.

8.2 FLOODING

Tsurai Village is not within a flood prone area due to its location along the mid- to lower-slope of the coastal bluff. The hazard of flooding due to high flows within the local creeks surrounding the site is therefore considered low to negligible. However, the large volume of woody debris within these creeks has resulted in the accumulation of sediment within the confines of their channels which increases the potential for saturated conditions to exist at the site. Saturation of the ground surface in and around Tsurai Village remains an ongoing problem due to the unnatural diversion of surface run-off and groundwater from the neighboring residence to the east.

8.3 SEISMIC HAZARDS

There are two primary areas of concern for evaluating seismic hazards for a site. These are: (1) potential for ground rupture due to placement of the structure on or near an active fault, and (2) the anticipated magnitude and peak acceleration of the postulated seismic event. In response to the first area of concern, the site is not located within a Fault Hazard (Special Studies) Zone.

The Trinidad fault, at its closest, is located less than 1400 feet east of Tsurai Village and is the nearest recognized active fault to the site. The Trinidad fault is considered capable of generating an upper bound earthquake with a maximum moment magnitude (M_O) of 7.3 (ICBO-CDMG, 1998). A preliminary estimate of the median peak ground acceleration which may occur at the site in response to the regional upper bound design basis earthquake is 0.6 to 0.7 g (60 to 70 percent of the gravitational acceleration) (Petersen *et al*, 1999; CGS, 2003).

Given the level of potential ground shaking associated with the Trinidad fault, it is probable that earthquake-induced landsliding could occur along the coastal bluff above Tsurai Village. The actual level of risk of earthquake-induced landsliding is dependent on a number of variables including the proximity of the epicenter, the depth of the hypocenter, the duration of the shaking, soil type and density, and the soil moisture conditions at the time of the event.

Ongoing research into the seismicity of the Pacific Northwest has shown that the Cascadia Subduction zone is capable of generating major earthquakes which would affect this site. The Cascadia Subduction zone marks the boundary between the North American plate and the subducting Gorda and Juan De Fuca plates. The Cascadia Subduction zone, which extends from offshore of Cape Mendocino in Humboldt County, California to Victoria Island in British Columbia, is considered capable of generating an upper bound earthquake with a moment magnitude of 8.3 on its southern Gorda segment (Petersen *et al*, 1996). Based on Japanese tsunami records, the Cascadia Subduction Zone has recently been interpreted to have ruptured over its entire length in the year 1700 A.D. in a 9.0 M₀ earthquake event (Satake *et al*, 2003). The potential for tsunami inundation to occur at this site as a result of a major earthquake along the Cascadia Subduction zone is considered low (CDMG, 1995).

The site is located in California Building Code (CBC) Seismic Zone 4. Design and construction of any structure(s) proposed for this site should be done in accordance with these data and Chapter 16 of the 2001 edition of the CBC which should help to reduce the seismic hazards (risks to human life and property) at this site.

9.0 DISCUSSION AND CONCLUSIONS

Based upon LACO's field investigation and review of existing geotechnical investigations, it appears that the coastal bluff occupied by Tsurai Village is subjected to long-term erosional processes occurring at relatively slow rates punctuated by episodic debris slide events. Rotational slumping of the coastal bluff toe slope, resulting from ongoing wave and tidal action, also contributes to destabilization of the upslope areas. The coastal bluff as a whole generally appears stable in its present configuration and is unlikely to undergo catastrophic slope movement. Factors which may ultimately contribute to localized slope instability in and around Tsurai Village are:

- The diversion, concentration, and improper discharge of surface runoff onto the slopes above and on Tsurai Village, originating from hardscaped surfaces such as rooftops, driveways, and patios;
- an increase in the groundwater elevation, and spring and creek flow volume due to excessive landscape irrigation, densely spaced and undersized septic leachfields, and the addition of new leachfields resulting from continual development;
- disposal of landscape yard waste and the girdling and topping of trees on the slopes above Tsurai Village;
- continual destabilization of the coastal bluff toe slope resulting from wave and tidal processes, and;
- strong earthquake ground shaking.

Historical drawings from early European explorers indicate the slopes in and around Tsurai Village to have remained largely unchanged since the late 1700's. According to Tsurai oral history, it is quite likely that Tsurai Village has been inhabited for many millennia prior to initial contact with Spanish explorers and Russian fur traders. This being the case, it is not unreasonable to assume that rates of coastal retreat at this location are very low and will likely continue to be so in the near future. However, the exhumation of ancestral human remains and middens by current erosional processes

indicates that coastal retreat is actively occurring, albeit at rates unlikely to produce catastrophic slope movements.

Previous geotechnical investigations, which included the installation of slope inclinometers within deep boreholes (approximately 78 feet below grade) indicate no "appreciable lateral displacement to the depths explored" to be occurring in the areas underlying Wagner Street. This suggests that the bluff below the upper five feet of the soil profile is relatively stable (Taber Consultants, 2003). Along Edwards Street, there is also a general lack of evidence that would suggest deep-seated failure planes are present. However, in the vicinity of the Trinidad Memorial Lighthouse, differential settlement of the concrete areas is evident, probably indicating that shallow slumping is occurring at this location.

The Wagner Street Trail, located along the outermost edge of the coastal bluff, is susceptible to differential settlement and erosion due to the lack of vegetative cover and considerable foot traffic in conjunction with the low-density soils present. The Tsurai descendants indicate that this trail was at one time 16 to 20 feet wide. It is now approximately 8 to 10 feet wide as a result of slow, but steady, bluff retreat. It has been reported by Taber Consultants that longitudinal cracks paralleling the bluff face are present near the trail edge. Fractures such as those observed are typical in coastal bluff settings due to the lack of subjacent support and the effects of gravity. Without the proper vegetative cover, fractures such as these may infill with surface runoff and channel water into the subsurface, thereby exacerbating potential instability.

Limit-equilibrium slope stability modeling and assessment of the coastal bluff indicates that increased loading due to trail usage has no practical effect on the calculated value of F_S for the subject slope, as discussed earlier. Continued trail usage is therefore unlikely to cause catastrophic slope failure as result of loading due to foot traffic. Nonetheless, the practice of siting a pedestrian trail along the outboard edge of a coastal bluff is generally ill advised due to the resulting soil compaction and the creation of bare soil areas, an increase in uncontrolled surface run-off over the bluff edge, and the required vegetation removal necessary to maintain the trail resulting in decreased root strength, and hence soil destabilization.

The single greatest factor that could adversely affect slope stability at Tsurai Village is an increase in the groundwater surface elevation. Slight increases in groundwater elevations result in significant decreases in the calculated value of F_S. The worst case scenario reduces F_S by almost half. Increases in the groundwater surface elevation resulting in year-round high groundwater conditions are primarily related to the densely spaced network of private on-site waste water disposal fields (leachfields). Information regarding Trinidad septic permits, dated April 1997, indicates that a majority of systems were installed in the 1970's and 1980's. Typically these existing systems that serve two- and three-bedroom residences consist of 50 feet or less of leachline, which is undersized by today's standards. As a result, point discharge of effluent on the tightly spaced city parcels, particularly those that contain commercial businesses, can contribute significant amounts of water to the subsurface. In a 1989 report prepared by the Coastal Commission to the City of Trinidad, it was noted by the Humboldt County Division of Environmental Health, "that water seepage with an odor problem is occurring along a bank along Edwards Street. While no particular septic system has yet been identified, source appears to be wastewater effluent. The County Health Department believes that the problem is probably due to localized and high density wastewater loads." The report further states that, "high density wastewater loads causing seeps from a bank do indicate a site's or area's carrying capacity is being reached and the limited ability of the site to accommodate new or rehabilitated development..."

10.0 RECOMMENDATIONS

The location of Tsurai Village along the mid- to lower-slope of an actively retreating coastline make it particularly prone to slope instabilities exacerbated by poor land use management practices. Surface drainage and run-off emanating from neighboring and bluff top residences is the single greatest factor affecting slope stability at this site. Fortunately, the uncontrolled discharge of surface run-off is easily mitigated with the emplacement of drainage collection structures, tightlines, and properly located points of discharge. During LACO's field investigation, several locations were identified where discharge of surface run-off is directly affecting Tsurai Village in an adverse manner. Mitigation of these problem areas will not only benefit Tsurai Village, but will also benefit bluff top landowners by minimizing the potential for slope instabilities to occur. The following recommendations are intended to reduce, but may not eliminate completely, the noted geologic hazards present.

- 1) Sebring property (assessor's parcel number 042-131-007): The inboard ditch located alongside the lower driveway accessing this residence is directing significant volumes of surface run-off directly onto the village grounds. It appears that a majority of the driveway is located within the Coastal Conservancy access easement. It is recommended that a drop inlet be constructed at the residence's western property line. The drop inlet should be drained via a minimum 8-inch pipe that delivers the surface run-off back into Parker Creek or a suitable outlet point well below the residence. The use of a small excavator will be required to install the drop inlet and piping.
- 2) Currently, surface run-off collected from the roofs, driveways, and patios of the local bluff top residences appears to be discharged via flexible pipe directly onto the slopes below the Wagner Street Trail and above Tsurai Village. It is recommended that run-off emanating from these hardscaped areas be collected and delivered back onto Wagner Street to permit drainage to the City's existing storm drain network. To do so may require individual landowners to install a collection sump with pump. This measure will, in our opinion, have a much greater effect in stabilizing the slopes below the residences and above Tsurai Village than will closure of the Wagner Street Trail.
- 3) The asphalt curb running alongside the outboard edge of Edwards Street should be continued along Van Wycke Street. Presently, it appears that all surface run-off controlled by the curb is discharged onto Van Wycke Street where it flows uncontrollably over the coastal bluff edge. This concentration of run-off, particularly during intense precipitation events, has the potential to saturate and/or erode the hillside and induce slope failure.
- 4) Access to the Axel Lindgren Memorial Trail should be re-routed back to its original location through the grounds of the Memorial Lighthouse. The existing upper trail access, sited on failing sidecast fill material alongside the southwest corner of the lighthouse grounds, should be abandoned and the fill removed to prevent the need for ongoing maintenance. A handrail along the east edge of the trail should be constructed to provide for safer trail usage and to discourage users from hiking off trail.
- 5) Non-native vegetation and downed trees comprising the thick understory directly in and around Tsurai Village should be removed to provide for access and site use. On the slopes surrounding the site, as much vegetation as possible should remain to provide for

soil root strength and slope stabilization. Bare soil areas created by vegetation removal should be seeded with native grasses and/or shrubs. Removal of the dense stand of alder and willow trees on flat ground and low gradient slopes may also occur, if desired, and is not expected to have detrimental effects on the site. It may also be beneficial to clear the local stream channels of the vast amounts of woody debris. However, some woody debris should remain to provide habitat for aquatic species.

- 6) Pathways to be used for access to the site should be constructed with a layer of filter fabric or weed mat, and overlain with crushed base rock or wood chips. The pathways should be slightly crowned to promote drainage of surface water toward the edges of the walking trail. Interlocking trail steps, similar to those constructed along the Axel Lindgren Memorial Trail, should be emplaced where the pathways traverses steep sections of slope. Alternatively, cable steps may also be used where deemed necessary. Crushed base rock should be placed between the treads and large, angular cobbles should be placed alongside the outside edges of the steps to stabilize the adjacent ground surface.
- 7) Common erosion control measures such as rock lined ditches, energy dissipaters at discharge points, and vegetative ground cover should be used wherever surface run-off has the potential to cause rilling and gullying.
- 8) Protective fencing with a low visual impact, such as redwood split rail, should be installed around Tsurai Village, the burial grounds, and other sensitive areas to limit access and foot traffic.
- 9) Dumping of yard waste, brush, and woody debris on the slopes above Tsurai Village by local bluff top land owners and city personnel should not be allowed to continue. Continual disposal of vegetation increases soil moisture, adds unnecessary overburden to the slope, produces anaerobic soil conditions, and contributes to the invasion of nonnative plant species which have a tendency to out-compete native flora.
- 10) Topping, girdling, and cutting down of trees on the steep slopes above Tsurai Village by the local bluff top land owners should also not be allowed to continue. The trees present on the steeply sloped areas provide a stabilizing effect resulting from root strength and rain interception by the canopy.

- 11) The Wagner Street Trail should be vegetated with native shrubs along its outboard edge to provide stabilization and to control surface run-off emanating from the compacted soil resulting from trail usage. The edge of the bluff should be periodically monitored to evaluate the rate of erosion and bluff top retreat. Closure of the trail should occur if and when the trail becomes dangerously narrow.
- 12) The City of Trinidad should investigate the possibility of constructing a sanitary sewer system and a wastewater treatment plant. In the meantime, the City should be encouraged to implement a city-wide program whereby individual septic tanks are pumped no less than once every five years. Septic tanks that serve commercial businesses, particularly vacation rentals that experience high volume usage during the summer months, should be pumped every three years at a minimum. Residences utilizing outdated septic leach pits should be required to install an adequately sized septic tank and leachfield that meets current County standards.
- 13) Bi-annual water sampling of the creeks and springs around Tsurai Village should be conducted, with testing for total and fecal coliform, enterococcus, and e. coli, following Water Quality Control Board and California Department of Health Services standards. Sampling and testing should occur during both the wet and dry season to determine the maximum concentrations present.
- 14) The ability to stabilize the coastal bluff toe slope directly below Tsurai Village is problematic. It has been recommended by others in the past that rip-rap be placed along the back edge of Old Home Beach to stabilize the slope. However, the installation of rip-rap generally results in accelerated erosion along the adjacent areas that remain unprotected. Consequently, the entire toe slope, from the rock outcrop near the foot of the Parker Creek Trail to the rock outcrops at the western edge of Old Home Beach, would require rip-rapping. Such an endeavor would likely be cost prohibitive and also unsightly. An alternative may be the installation of redwood log cribbing solely at the location where buried remains are being exhumed and exposed in the face of the toe slope. The log cribbing would serve to partially stabilize this area as well as prevent further excavation and desecration of the site by grave robbers.

11.0 LIMITATIONS

This report has been prepared for the exclusive use of the Tsurai Ancestral Society and appropriate public authorities for specific application to the project site. LACO ASSOCIATES (LACO) has endeavored to comply with generally accepted engineering geologic practice common to the local area. LACO makes no other warranty, express or implied.

The analyses and recommendations contained in this report are based on data obtained from specific locations where field observations were conducted and only at the time they were conducted.

The recommendations included in this report are based in part on assumptions of subsurface conditions that may only be extrapolated from surficial observations. LACO cannot preclude that changes in subsurface conditions may occur in the future as a result of changing site conditions resulting from unpredictable strong seismic events, variable ocean conditions, and intense precipitation events.

Do not apply any of this report's conclusions or recommendations to sites other than those described above. Also note that LACO is not responsible for any claims, damages, or liability associated with any other party's interpretation of the field data or reuse of this report for other projects or at other locations without our express written authorization.

12.0 REFERENCES

- Barlow, S. G., (1980), *Geology and Slope Stability at Pt. Delgada, CA*, unpublished Master's Thesis, California State University Long Beach, 34 pp.
- Busch Geotechnical Consultants, (1990), *Historic Tsurai Village, Trinidad, CA: slope stability evaluation and geotechnical recommendations*. Unpublished report to client.
- Busch Geotechnical Consultants, (1995), Recommended <u>immediate</u> closure of Wagner Street coastal access trail, Trinidad, Humboldt County, California. Unpublished report to client.

- Busch Geotechnical Consultants, (2002), Results of Limited-Scope Geotechnical Investigation for Proposed Sidewalk Improvements, Trinidad, California. Unpublished report to client.
- Busch Geotechnical Consultants, (2003a), The Wagner Street Trail Access, The Wagner Street Frame Properties, and the Historic Tsuari (sic) Village Site, Trinidad, California, 1991-2003: 12 Years of Geotechnical Concern. Unpublished report to client.
- Busch Geotechnical Consultants, (2003b), *Imminent Failure of the Wagner Street Trail Access, Trinidad, California.* Unpublished report to client.
- California Coastal Commission, (1989), Report to the City of Trinidad on the Implementation of the Local Coastal Program.
- California Division of Mines and Geology, (1983), State of California Special Studies Zones, Trinidad Quadrangle 7.5 Minute Topographic Series, Humboldt County California.
- California Division of Mines and Geology, (1995), Planning Scenario in Humboldt and Del Norte Counties, California, for a Great Earthquake on the Cascadia Subduction Zone, Special Publication 115.
- California Division of Mines and Geology, (2000), Digital Images of Official Maps of Alquist Priolo Earthquake Fault Zones of California, Northern and Eastern Region.
- California Geological Survey, (2003), Probabilistic Seismic Hazards Mapping Ground Motion Page.
- Carver, G. A. and R. M. Burke, (1989), *Active Convergent Tectonics in Northwestern California* in Geologic Evolution of the Northernmost Coast Ranges and Western Klamath Mountains, California: Field Trip Guidebook T308. American Geophysical Union, pp. 64-82.

- Chaney, R. C. and D. Tuttle, (1988), *Coastal Bluff Retreat at Big Lagoon, California*, 2nd International Conference on Case Histories In Geotechnical Engineering, Volume 1, St. Louis, MO., Pp 555-558.
- Chaney, R. C., T. B. Job, D. N. Lindberg, and S. S. Slonim, (2004), *Differing Perspectives on Utilization and Protection of Urbanized Coastal Bluffs in Northern California*, in 7th International Symposium on Environmental Geotechnology and Global Sustainable Development, Espoo, Helsinki, Finland, June 8-10, 2004.
- Coppersmith, K. J., T. A. Stephens, F. H. Swan III, N. E. Denning, and K. A. Malek, (1982), *Near-Surface Behavior of Thrust Faults in the Humboldt Bay Area, California*, in Friends of the Pleistocene 1982 Pacific Cell Field Trip, Late Cenozoic History and Forest Geomorphology of Humboldt County.
- Heizer, R. F., and J. E. Mills, (1952), *The Four Ages of Tsurai*. University of California Press, Berkeley, Ca.
- LACO ASSOCIATES Consulting Engineers, (1994a), Geologic Report; Proposed Remodel for the Trinidad Civic Club Memorial Lighthouse. Unpublished report to client.
- LACO ASSOCIATES Consulting Engineers, (1994b), *Slope Stability at Civic Club Memorial Lighthouse*. Unpublished report to client.
- LACO ASSOCIATES Consulting Engineers, (2001), Slope Stability Assessment of Agate Beach Campground and Lookout Rock Campground, Department of Parks and Recreation, Patrick's Point State Park, Trinidad, California. Unpublished report to client.
- Larson, R. A., and J. Slosson, (1997), Reviews in Engineering Geology Volume XI: Storm Induced Geologic Hazards: Case Studies form the 1992-1993 Winter in Southern California and Arizona. The Geological Society of America, Inc., Boulder, CO, 122 pp.

- Rust, D. (1982), Late Quaternary Coastal Erosion, Faulting, and Marine Terraces in the Trinidad area, Humboldt County, Northern California, in Friends of the Pleistocene 1982 Pacific Cell Field Trip, Late Cenozoic History and Forest Geomorphology of Humboldt County.
- Petersen, M. D., D. Beeby, W. Bryant, C. Cao, C. Cramer, J. Davis, M. Reichle, G. Saucedo, S. Tan, G. Taylor, T. Toppozada, J. Treiman, and C. Wills, (1999), Seismic Shaking Hazard Maps of California. Division of Mines and Geology, Map Sheet 48.
- Petersen, M. D., Bryant, W. A., Cramer, C. H., Cao, T., Reichle, M. S., Frankel, A. D., Lienkaemper, J. J. and McCrory, P. A., (1996), Probabilistic Seismic Hazard Assessment for the State of California. DMG OFR 96-08, 59 pp.
- Satake, K., K. Wang, and B. F. Atwater, (2003), Fault slip and seismic moment of the 1700 Cascadia earthquake inferred from Japanese tsunami descriptions. Journal of Geophysical Research, Volume 108, No. B11, 2535.
- Seigel, R. A. (1975), *Stable User Manual*, Purdue University, West Lafayette, Indiana, 99 pp.
- SHN Consulting Engineers and Geologists, (1996), *Geologic Report for Two Trail Alternatives South of Edwards Street, Trinidad, California.* Unpublished report to client.
- Stephens, T. (1982), *Marine Terrace Sequence Near Trinidad, Humboldt County, California*, in Friends of the Pleistocene 1982 Pacific Cell Field Trip, Late

 Cenozoic History and Forest Geomorphology of Humboldt County.
- Taber Consultants, Engineers and Geologists, (2003), *Bluff Evaluation, 451 Wagner Street, Trinidad, California*. Unpublished report to client.
- Terzaghi, K., R. Peck, and G. Mesri, (1996), *Soil Mechanics in Engineering Practice*, Third Edition, John Wiley and Sons, Inc. New York, NY.

Turner, A. K. and R. L. Schuster, (1996), *Landslides: Investigation and Mitigation*, Transportation Research Board Special Report 247, National Academy Press, Washington D. C., 674 pp.

Tuttle, D. (1981), *Investigation of Methods for Determining Coastal Bluff Erosion* – *Historical Section*, Humboldt County Department of Public Works, Eureka, California.

13.0 LIST OF FIGURES

Figure 1: Location Map

Figure 2: Assessor's Parcel Map

Figure 3: Fault Hazards Map

Figure 4: Aerial Photographic Site Map

Figure 5: Site Photograph

Figure 6: Slope Stability Analysis

13.1 LIST OF ATTACHMENTS

Attachment 1: Analytical Laboratory Results

P:\5600\5612 Tsurai Geotech\5612 Tsurai Village Geologic Site Assessment.doc